MAY, 1933

COTTON

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TEXTILE INDUSTRIES

For Cleaner and Evener Picker Laps

And Better Running Carding and Spinning

Install Aldrich Synchronized Single Process Picking

Your present pickers are used, and with the Aldrich System they will do anything that new pickers can do. The cost is small, and the saving in labor and power pays from 50% to 150% annual returns on the investment.

Made and installed by

ALDRICH MACHINE WORKS

Greenwood S. Carolina

Table of Contents, Page 15. KNITTING SECTION, PAGE 75 Advertisers' Index, Page 118.

Install Veeder-Root PICK COUNTERS

for an average

NET SAVING

of **$7.91**

per loom-per year

-giving you an average

INVESTMENT RETURN

of **61%** *on Counter installation.*

Let us present an analysis

COUPON: *—pin to your business letterhead*

Send us **your survey and analysis of mill operating costs, with information on the new GREEN COUNTER with handy Key-in-front design. » »**

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INCORPORATED
HARTFORD, CONN., GREENVILLE, S.C.

SOUTHERN OFFICE, Room 1401, Woodside Building, GREENVILLE, SOUTH CAROLINA » » »

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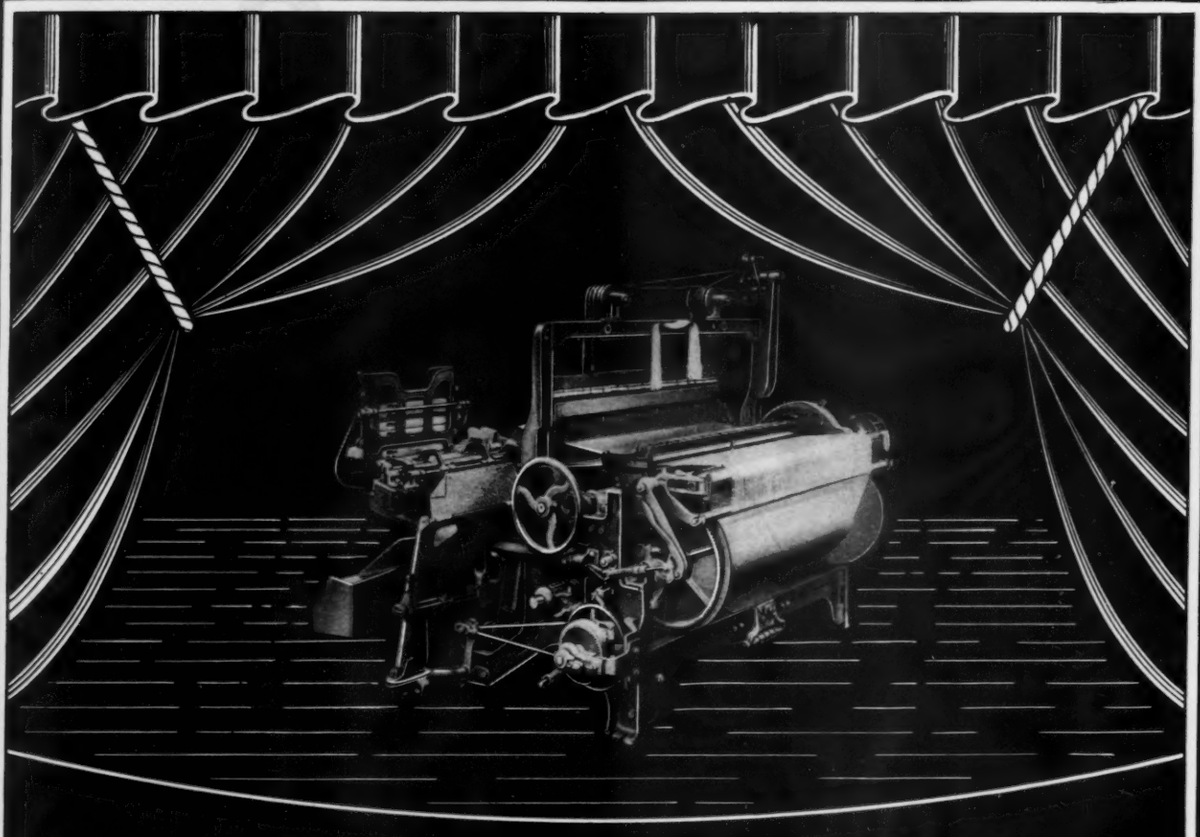

The New Draper C Model
Shuttle-Changing Loom

Holds the Center of the Stage

Because It Is

The Latest and Best Loom
For Rayons and Fine Cottons
Does Not Stop When the Shuttle Is Changed

DRAPER CORPORATION
Hopedale Massachusetts
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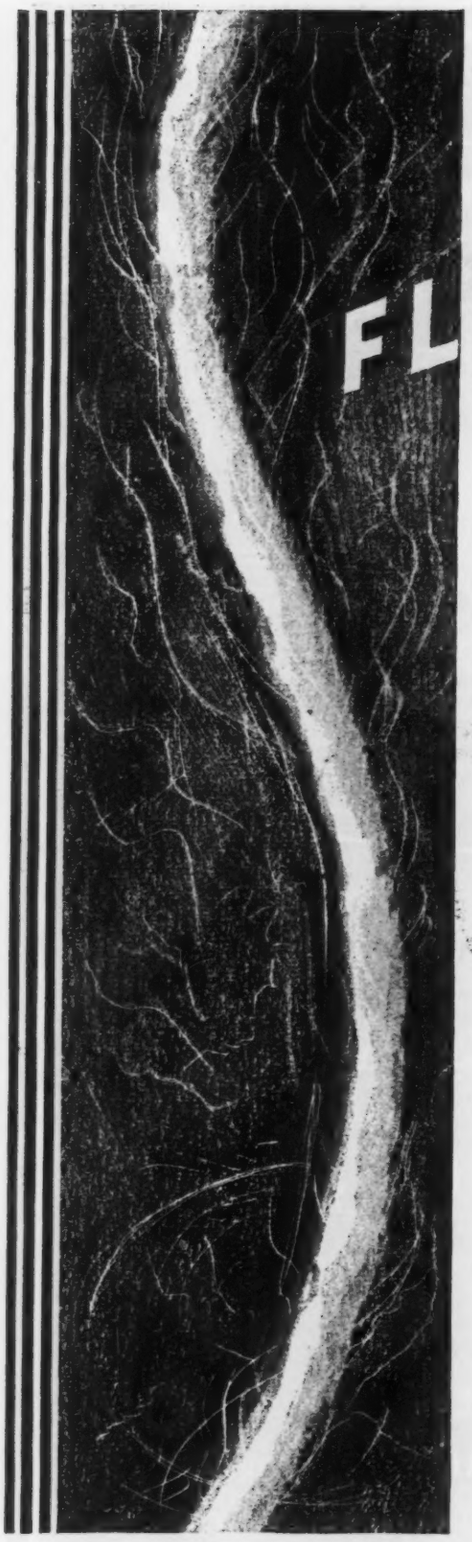

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Here's the answer

It's the new TEXACO TEXSPRAY COMPOUND and process of cotton conditioning. Static has been overcome. The difficulties and high cost of stoppages due to flyings have been practically eliminated.

Cotton treated with TEXACO TEXSPRAY COMPOUND runs cleaner, the fibres are soft and pliable. They lay parallel, closer, and work better. Mill operating conditions are vastly improved.

TEXACO TEXSPRAY COMPOUND is the result of years of development. It has now been made available to mill operators. The results are surprising.

Write The Texas Company for full information

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The Texas Company has exclusive patent rights under important inventions as follows:

GEORGE HILL · Patents Pending
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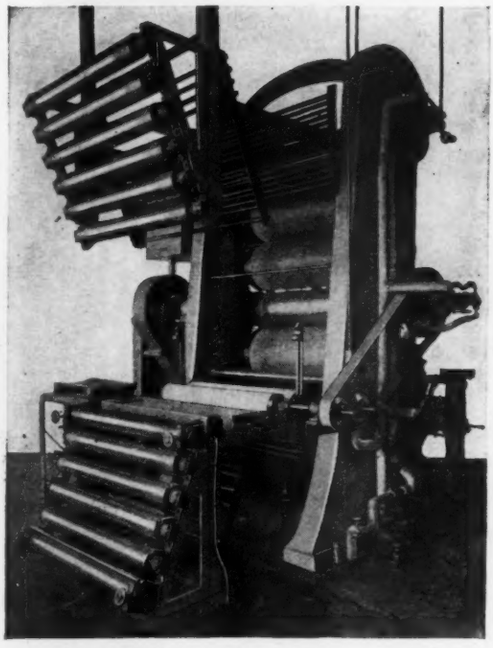
relating to
the conditioning of textile fibres with oil.

Why are the finishing costs in other Mills 21% lower . . . than yours?



BUTTERWORTH 6-roll Hydraulic Chasing Calender, installed in Pacific Mills, Lyman, S. C. This is the kind of equipment that will help you lower finishing costs.

Could the answer be OBSOLESCENCE?

Let us look at a few facts

RECENTLY developed fulling mills and washers, continuous carbonizing machines, improved dye kettles, new decatizing machines, and modern drying and conditioning equipment enables savings of 21% in the cost of processing woolens and worsteds.

These are figures taken right from the books—not theoretical savings

IT has been estimated that total annual savings which can be effected by the installation of up-to-date equipment for processing all types of woven fabrics, including those dyed and finished by the manufacturer, but exclusive of yarn and knit goods, is $23,000,000!

We have an engineering organization which will go into these facts and figures with you. Then, when you are convinced what obsolescence is costing you, we will aid you in modernizing your plant.

—And remember that Butterworth Service extends from the laying out of buildings to the installation of all machinery and seeing to it that this machinery no matter who makes it lives up to every claim made for yardage and quality. In other words, we do the complete job.

H. W. BUTTERWORTH & SONS CO.

Established 1820

PHILADELPHIA, PA.

PLANTS *at* PHILADELPHIA *and* BETHAYRES, PA.

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A COMPLETE LINE OF RAYON AND FINISHING MACHINERY FOR THE TEXTILE INDUSTRY

The Entering Wedge to Card Room Economy

THE economic situation of today demands economy in every detail of each department. The entering wedge to economy in the card room is efficient card clothing. Regardless of the perfect mechanical action of the cylinder and doffer, the carding process is a failure if the clothing fails to perform.

That TUFFER Card Clothing gives maximum efficiency and longevity of service is proven in the scores of mills that use it in preference to all others. It grinds quicker, holds point longer, strips easier and can be set closer than any ordinary make now on the market. It gives more pounds of production and saves considerably on stock heretofore wasted.

Throughout every step in its manufacture, TUFFER Card Clothing is made with one idea in view—economy to the ultimate user.

TUFFER Card Clothing is ideal production equipment—the result of 67 years' experience—all of it paving the way toward greater, better and more economical production.

Don't be led into later regrets! Consult a Howard Brothers expert on your particular problem, today!

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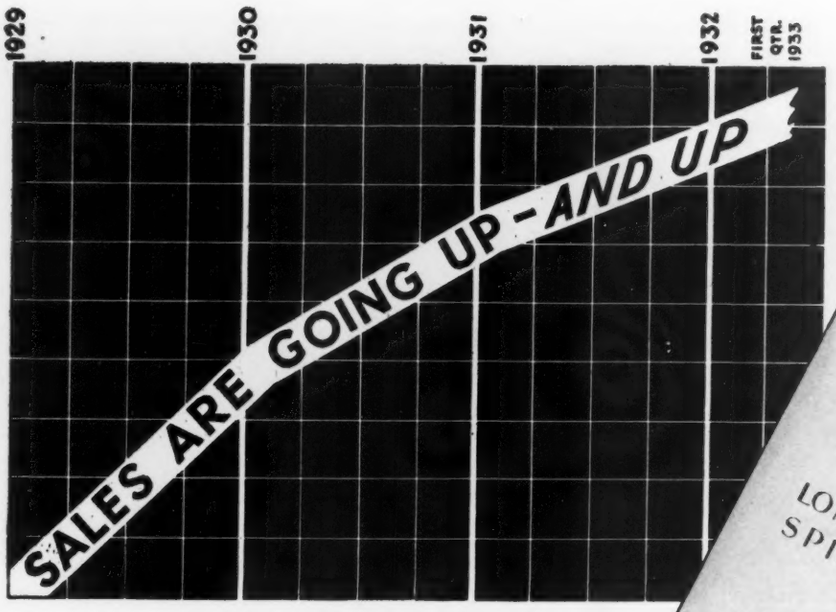

This book thoroughly explains the different long draft systems in general use today and how they operate. If you haven't a copy, write us for one.

1932 *was a Casablancas year*

More Whitin-Casablancas Long Draft Spindles were installed last year by the mills of the United States than during any previous year.

Present conditions in textiles put a tremendous premium on lower production costs. The steady increase in Whitin-Casablancas installations has come about because *no other equal expenditure will return such great dividends in lowered costs.*

The Whitin-Casablancas System accomplishes these things:

1. Decreases card room labor cost.
2. Saves creeling labor and waste.
3. Eliminates much machinery.
4. Saves floor space.
5. Is more flexible.
6. Produces a better quality yarn.
7. Saves power and overhead.

Specific figures are available to anyone interested.

WHITIN
MACHINE WORKS

ESTABLISHED 1831

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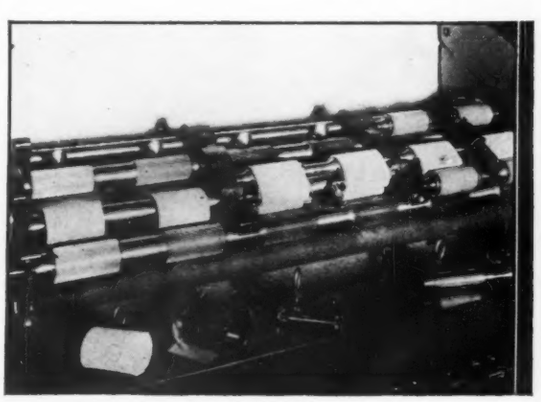

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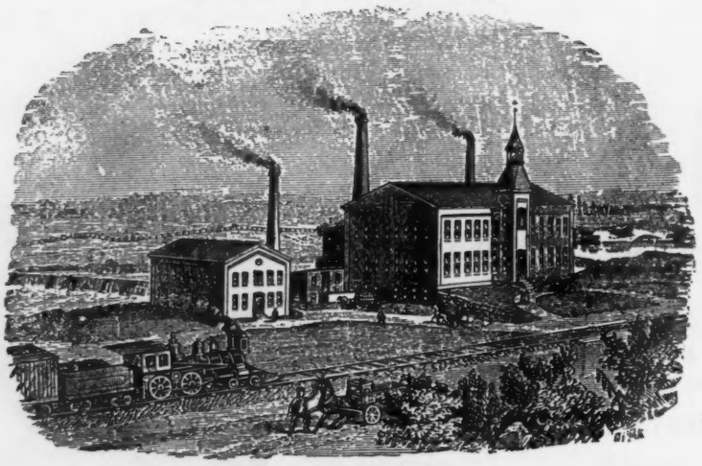

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ESTABLISHED 1831

VELVET SURFACE CONE-

Feeds-off to the last turn.

ONLY from the perfectly wound package does yarn wind off evenly and smoothly to the last turn.

Perfect coning of all yarn begins with the primary winding where the first few turns lay the foundation for the entire package.

The SONOCO Velvet Surface Cone prevents any slippage of yarn in the primary winding, insuring the even laying-on of each traverse and resulting in the perfectly wound package, necessary to smooth delivery when winding-off.

While almost universally used for coning silk, rayon and fine count cotton and mercerized yarns, the Velvet Surface Cone offers the same advantages in coning coarser cotton yarns. The more perfectly any yarn is coned, the less waste and breakage upon delivery—the greater the satisfaction and economy to all concerned.

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* * * *

Champion "Cotton Content" is a high class white paper for all business purposes—printing and writing—produced by a blend of selected fibres—cotton and wood—and made available for the growing needs of the South.

The Champion Fibre Company make a variety of high grade papers including **Book Paper, Envelope Paper,** and **Writing Paper**—all made from selected fibres and are Champion Fibres in the truest sense.

The Champion Fibre Company make a complete line of Board Specialties.

* * * *

The Champion Fibre Company also manufacture Caustic Soda in Solid, Flake and Liquid forms, Sodium Hypochlorite, Sodium Resinate, Tanning Extract and Turpentine.

The
CHAMPION FIBRE COMPANY
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The W. R. C. Smith Publishing Company, Publishers of "COTTON," are users of Champion "Cotton Content" paper.

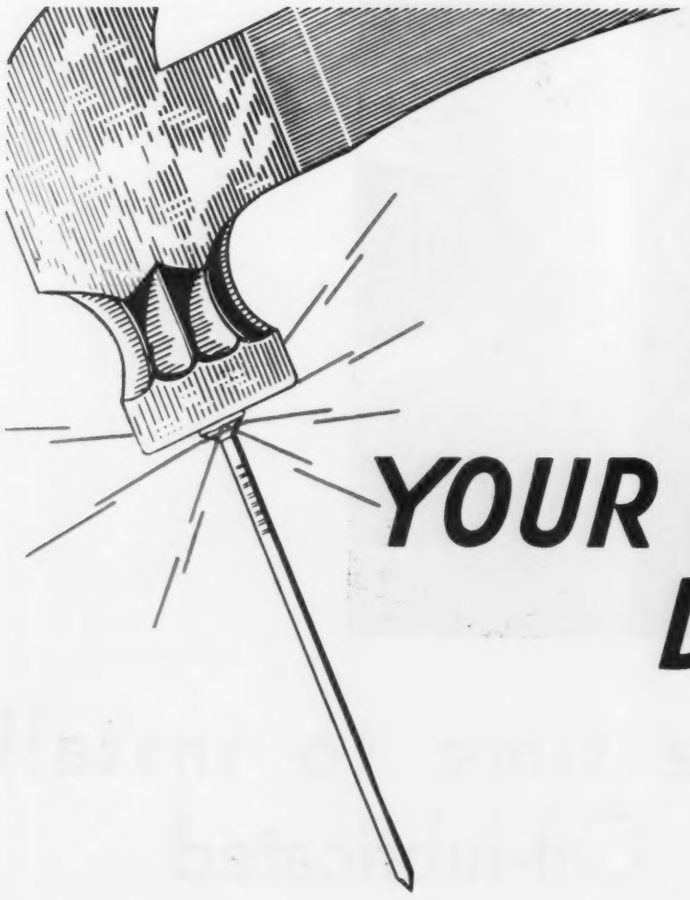
NOW is the time to install Automatic Oil-lubricated Twister Rings

From present indications, automatic oil-lubricated rings will eventually be standard on most classes of twisting. The mills who install NOW will benefit most. The DIAMOND FINISH Eadie Ring is the only one which provides 100% lubrication with oil ALL AROUND the ring. Installation is speedily accomplished—and so is the substantial production increase!

Whitinsville (Mass.) SPINNING RING CO.

Devoted to making "DIAMOND FINISH" Spinning and Twister Rings since

1873



NAIL YOUR MARKETS DOWN

LABELS
TICKETS
BOLT ENDS
HANG TAGS
BANDS

RETENTION and expansion of markets already penetrated is the vital objective of most established manufacturing plants today.

Together with inherent quality, designs that appeal and dollar value, modern merchandising demands something more — some ready means of identifying grade and character of product.

Many textile plants and sales organizations find a simple answer to that demand in the application of properly designed brand marks to their goods.

Each month, additional manufacturers come to us for designs or reproductions of some type of distinctive brand mark — labels, tickets, bolt ends, hang tags or bands. We should be happy to help you, too, "nail your markets down."

JACOBS GRAPHIC ARTS COMPANY
DESIGNERS AND PRODUCERS OF TEXTILE PACKINGS
CLINTON___SOUTH CAROLINA

MAKE THESE TESTS

Compare the Dayton Cog-Belt with any other V-Belt in vital principles of construction

First, mark two points four or five inches apart on the outer surface of a belt. Then bend the belt *double*. And while doubled, measure the distance between the marks again. Note how far the outer section of the belt has stretched. This shows how the outer section of any belt must stretch when going around a pulley.

The Dayton Cog-Belt is the only V-Belt built to take this "stretch" without strain or distortion. The outer section is made of bias-cut fabric—it "gives" without strain; like pulling your handkerchief from diagonally opposite corners.

Also, while the belt is flexed, note how the cogged inner surface has compressed—how the cogs have closed and "taken-up" the compression on the inner surface of the belt.

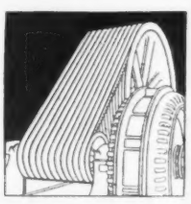
Second, compress a section of a Dayton Cog-Belt between the thumb and forefinger and note the extreme crosswise rigidity. Because of this positive crosswise rigidity there can be no "squashing" in the pulley groove . . . no distortion or twisting.

No other V-Belt combines such extreme flexibility with such positive crosswise rigidity.

And because Dayton Cog-Belts offer these exclusive advantages—because they are *built to bend*—because they have such positive crosswise rigidity—they provide maximum contact arc, have greater gripping power, permit smaller pulleys with closer centers, save floor space, run cooler, require less tension, are easier on bearings, last longer.

But don't stop with making these tests. Let us give you more of the facts—facts that prove how Dayton Cog-Belts are more efficient and, at the same time, how they save you money in many ways. Your inquiries are invited.

THE DAYTON RUBBER MFG. CO.
DAYTON, OHIO
Factory Distributors in Principal Cities and all Westinghouse Electric and Manufacturing Company Sales Offices



Dayton
COG • BELT DRIVES

GARGOYLE LUBRICANTS CUT COSTS IN LEADING TEXTILE MILLS

★ ★ ★

Show power savings of 5 to 10% and reduction in oil spots. Leading builders of Textile Machinery give endorsement.

★ ★ ★

Whitin Spinning Machinery. Whitin Machine Works, well-known builders of textile equipment, are among those who recommend the use of Gargoyle Lubricants in their equipment.

IN ALMOST every case in which a textile mill has changed to Gargoyle Lubricants for its equipment, it has found (1) savings in power ranging from 5% to 10% and (2) less spotting of material. This is true of textile mills of every type — cotton mills, silk mills, woolen mills and others.

So consistent have been lower-cost records made in this way that *eleven* leading manufacturers endorse the use of Gargoyle Lubricants for their equipment. Among these is Whitin Machine Works, prominent manufacturers of spinning machinery, picking machinery, combers and many other types of textile equipment.

"Here, at last," say both builders and users of textile machinery, "is a complete, perfectly-balanced line of lubricating oils — of the proper bodies to prevent oil throw and, at the same time, to hold power cost to a minimum."

Why don't you find out what Gargoyle Lubricants can do towards lowering costs in your plant? A Socony-Vacuum representative will be glad to show you savings made in leading mills throughout the country.

Socony-Vacuum Corporation, 26 Broadway, New York City. Branches and distributors in principal cities throughout the world.

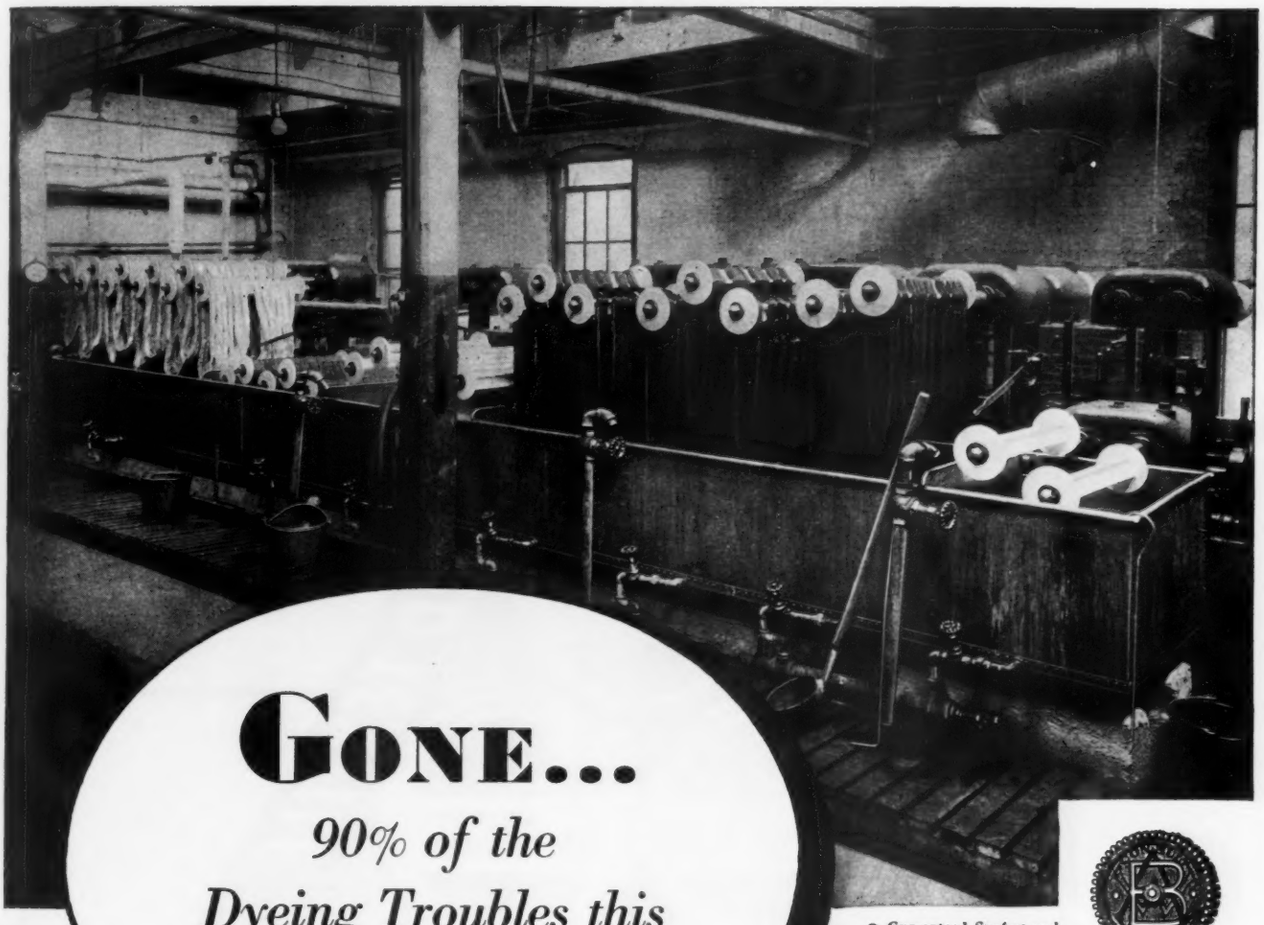
GARGOYLE

Lubricating Oils

SOCONY-VACUUM

CORPORATION

MERGER OF STANDARD OIL COMPANY OF NEW YORK AND VACUUM OIL COMPANY



GONE...

90% of the Dyeing Troubles this plant used to have!

● *Guaranteed Sunfast and Indanthrene Dyeing by the Montgomery Dyeing Company, Inc., Union City, N. J. is done in this 14 compartment, 60 roll "Buhlmann" Monel Metal skein dyeing machine, manufactured by A. W. Buhlmann, Textile Engineer, 200 Fifth Avenue, New York, N. Y.*

● Skein dyeing of silk, rayon and cotton has its own troubles—but most of them are needless and can be avoided...

Just catch the enthusiasm of Montgomery Dyeing Company for their new Buhlmann Skein Dyeing Machine equipped with Monel Metal dye tanks...

"It has worked wonders," they say. "We regret that we have not installed these Monel Metal tanks years ago. We have lessened our dyeing troubles 90%."

Monel Metal ends those dyeing "headaches" that seem to be unescapable with old-type tanks:

Monel Metal cleans quickly...

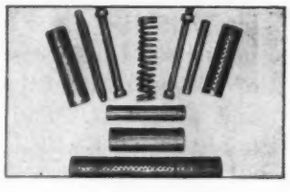
It cleans *completely*...

Its smooth, polished surfaces don't become rough...

There's nothing to crack, chip, peel, or splinter...

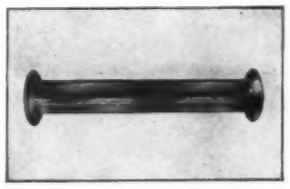
And Monel Metal is chemically *stable*, it cannot rust and it resists any reaction between it and the chemicals generally used in modern dyehouse practice.

If these qualities appeal to you as worth having, they certainly are worth investigating. Write for "List B" of literature covering the subject of Monel Metal in dyeing and finishing.



DYEING TUBES

Perforated Monel Metal tubes and spring as used in package dyeing. Manufactured by Larson Tool and Stamping Co., Attleboro, Mass.



DYEING REEL

Break-proof Monel Metal reel for compartment type skein dyeing machines. Manufactured by the A.B.C. Welding Company, Philadelphia, Pa.

Monel Metal is a registered trade-mark applied to an alloy containing approximately two-thirds Nickel and one-third copper. Monel Metal is mined, smelted, refined, rolled and marketed solely by International Nickel.

MONEL METAL

THE INTERNATIONAL NICKEL COMPANY, INC.
67 WALL STREET NEW YORK, N. Y.

QUALITY PRODUCTS are most economical

SAVE-LITE—Enamel Finish has won the favor of many Industrial Engineers because of its superb quality of finish and whiteness. The working qualities of SAVE-LITE are all that might be desired. It brushes with great ease and is adaptable for spray application. The proper balance of formula and thorough fine grinding gives great hiding power.

MILL VILLAGE PAINT — A high quality combination pigment paint made for the protection of exposed surfaces of Mills and Cottages. The formula we consider ideal for the utmost in paint service under the most trying conditions. MILL VILLAGE PAINT is made of the highest grade materials, and the formula is properly balanced, which provides easy working, unusual covering and long life.

VELVET ENAMEL—The ideal finish for the interior of cottages, a full enamel gloss being objectionable because of glare, and a flat finish being too readily soiled. Use Velvet Enamel for interior woodwork, plastered walls, concrete walls, wall board and Keene's Cement. Velvet Enamel may be washed repeatedly with soap and water.

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Warehouse connections at all offices carry stock for prompt service to textile trade.

Vol. 97 **COTTON** No. 5

May, 1933

W. R. C. SMITH, Publisher
T. W. McALLISTER, Editorial Director

ROBERT W. PHILIP, Editor

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Atlanta, Ga.

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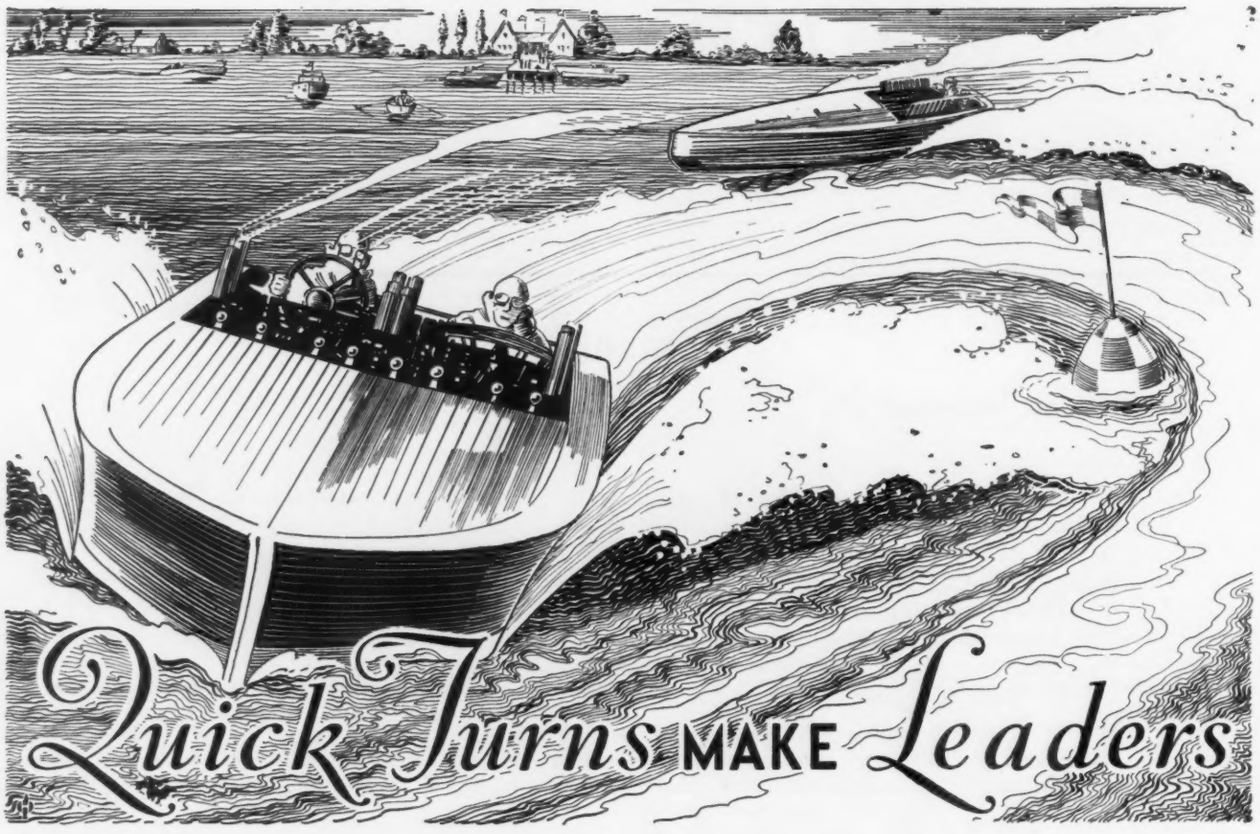

Try "AN ALLIANCE WITH INDUSTRIAL"

Quick, courageous action is continually needed in meeting the emergencies of the times. It is often necessary to *utilize every resource* to maintain leadership or even to stay in the race. ◆◆ An alliance with Industrial offers very definite advantages. It assures you of products of distinctive merit made to an unvarying standard—an aid in holding old customers and gaining new. ◆◆ It means, too, a policy of cooperation unique in the industry! Research, market analysis, trade promotion and advertising. How valuable in aiding manufacturers make those quick turns that are essential so frequently today! ◆◆ Probably never greater than now is the opportunity for those organizations with able leadership who utilize all available cooperation to sweep ahead. Let's talk it over.

INDUSTRIAL RAYON CORPORATION
General Offices: 9801 Walford Avenue, Cleveland, Ohio
Plants: Cleveland, Ohio; Covington, Virginia

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PREMIER RAYON, SPUN-LO and DUL-TONE
YARNS AND KNITTED FABRICS

Vol. 97
No. 5

COTTON

May,
1933

HITTING THE BALL

A Word Picture and Brief Biography of the New President of the American Cotton Manufacturers Association . .

OFTENTIMES fate moves in apparently unrelated and insignificant ways to determine the course of a man, a business, a city or a people. A spider, persevering in the reconstruction of its web, gave inspiration and hope to Robert Bruce, and turned a discouraged leader and army into a militant, aggressive force for the glory of Scotland. The loss of a nail from the shoe of a horse, it is said, once brought about a complete reversal in the outcome of a rather important battle long ago.

And an unexpected "break" of a throw from a strong-armed pitcher caused the ball to break a finger of an enthusiastic catcher on a baseball team at Union, S. C., and turned an embryonic hero of the diamond into a textile man, and thus now, some thirty-odd years later, provides the American Cotton Manufacturers Association with its new president, this recognition, the highest within the power of southern cotton manufacturers as a body to bestow upon one of their members, coming as a well-deserved tribute to a career which, meanwhile, has been conspicuous for its energetic achievement for the industry. It is the purpose of this narrative to present something of the background of the man now elevated to this eminent position, to delineate him as an individual and as an executive.

Back in the past century, Martin Luther Marchant, a successful farmer, removed to the town of Greer, S. C., from Batesville, S. C., where, as one of eight children, Thomas Mood Marchant, the subject of this sketch, had been born on July 8, 1880. Shortly after the Marchants moved to Greer, a cotton mill company was organized there, and the Victor Manufacturing Company's first plant was erected on a portion of the Marchant farm. Tom grew up through the normal life of a lad in those days, attending school at Greer. Even as a youngster, however, Tom exhibited certain inherent characteristics of indomitable energy, a relish for work, and the prospects of an ability to get along with people—so the guiding spirit of the new mill, attracted by these traits, proposed that Tom go to Spartanburg and take a business course, in preparation for a job in the mill.

Ready then, as now, to take sound advice, Tom carried out the suggestion. An early developed instinct for organization and leadership exhibited itself there, and the baseball team resulted, and the broken finger in the game at Union temporarily suspended any plans of a career on the diamond, and precipitated Tom into the job at the mill which comprised a combination of office boy, supply clerk and multifarious other duties. Subsequently, he has so intensively and perseveringly applied himself to the ever-increasing responsibilities that have come to him in the textile manufacturing business, that long ago any dormant hopes of further activity along baseball lines were totally dissipated, and in a life of vigorous action and endeavor, his participation in the sport has become, perforce, a vicarious one.

It was in 1899 that Tom returned to his combination job at the Victor mill in Greer. So thoroughly did he justify his selection for the place, by displaying a tremendous capacity for work, that a few years later, Lewis W. Parker, then the head of Victor and a group of other southern mills, took Tom to his headquarters in Greenville, where he was for a while in charge of supplies and purchasing for the Victor Mfg. Co., the Monaghan Mills, and the Columbia group, known as Olympia, Granby, Richland, and Capital City.

It wasn't long before his ability to produce, in the real sense of the word, by doing work himself and getting others to work also, began to attract notice, and in 1910, when the Ottaray Mills at Union were purchased by a group of Greenville and Spartanburg men including William E. Beattie, Capt. Ellison A. Smyth, A. F. McKissick, Lewis W. Parker, Aug. W. Smith, John A. Law and D. D. Little, Marchant was selected to operate it for them. The names just listed include some of the outstanding pioneers in the development of southern textiles, and their

unanimous choice of a man was commendation indeed.

The Ottaray Mills were purchased in 1912 by Parker Cotton Mills Company, at which time Marchant returned to Greenville and was in charge of manufacturing of the sixteen mills operated by the Parker Cotton Mills Company.

In 1912, he was elected vice-president of the Monaghan Mills and Victor Manufacturing Company, subsidiaries of the Parker Company.

In 1914, W. E. Beattie and M. C. Branch were placed in charge of the properties of the Parker organization, with Branch as president and Beattie vice-president.

In 1916 the Parker Company sold eight mills and formed a subsidiary, the "Victor-Monaghan Mills" of which Marchant was made vice-president.

In 1917 the Victor-Monaghan Company was formed as a holding company, Branch being made president, Marchant vice-president and W. E. Beattie, treasurer.

In 1920 the Victor-Monaghan Mills were liquidated and Victor-Monaghan Company became the operating company, at which time Beattie succeeded Branch as president, and Marchant was made treasurer.

Three years later, Beattie announced his desire to retire from active business, and the logical selection for his successor was Tom Marchant, who had been closely associated with Beattie in the development and progressive success of the company, and so Tom was made president as well as treasurer, of Victor-Monaghan Company on June 20th, 1923, at 42 years of age, the position which he now holds. Incidentally, it was just ten years ago that William Edgeworth Beattie was elected as president of the American Cotton Manufacturers Association, so that now he sees Marchant succeed him in another phase of his own full and productive business life in the textile industry.

The Summer Cottage in the Mountains

The foregoing account of Marchant's business career may seem somewhat prosaic, and lacking in apparently spectacular features. Since the business is the shadow of the man, it is natural that it should so appear. Yet, gauged by the characteristics of the man, the continued and growing success of the company, and the spirit of the organization behind it—which again reflects the influence of the man at the helm—there is a very definite and striking story in Marchant's business career, concentrated in its direct relationships within the one company, which, while not glamorous or surrounded by anything dramatic or theatrical, typifies his qualities and characteristics.

In the first place, Marchant's outstanding business trait is that he is an indefatigable worker—in the true, fundamental sense of the word. He is possessed of an abundance of energetic enthusiasm for any task set before him, and it is an axiom among his associates that he tenaciously applies himself to an assignment, of whatever nature it be, and never relinquishes his application to it short of a thorough and final solution. It is this characteristic which, through his own persevering activity, and the example thus set for his co-workers, that has contributed so greatly to the solid and substantial growth and success of Victor-Monaghan, as one of the outstanding textile organizations of the country.

Other executives and employees in the executive offices of the company in Greenville seldom arrive in the mornings ahead of Marchant, and he generally is there to leave with them in the afternoon, meanwhile applying himself vigorously and effectively to the affairs at hand. This should in no sense be interpreted as meaning that Marchant is ham-strung with unessential detail. To the contrary, he has, through a keen insight into human nature and ability, and an executive ability to select, lead and train, built a most efficient organization for the operation of the company's affairs in every detail—which, by the way, includes a naturally progressive policy of advancement of subordinates when vacancies occur. But he is the active, directing head of the company, and, while delegating authority in proportion to responsibility, and not wasting time or effort on inconsequentials, he keeps closely in touch with the company's work, from details of manufacturing to the policies of selling and distribution. This interest includes an intensely personal interest in the affairs, activities and people of the villages.

Coupled with this penchant for work and activity, Marchant is an unusually clear and sound thinker; his is a mind unencumbered by complexes; he is able to analyze a proposition, strip it of its non-essential elements, and arrive, by clear, fundamental reasoning, at the crux of a matter. Sound in his viewpoint, deliberate in his decisions, and steadfast and firm in adherence to a conviction or a principle—is the estimate given of him by close associates.

Marchant works with effectiveness, not hurriedly, nor excitedly, nor yet ponderously, but smoothly, easily, taking things in his stride, not crossing bridges before they are reached.

Another notable trait in Tom Marchant—an important one—is that he is, in the vernacular, a good mixer. He likes people, as people, and enjoys folks—whatever strata of established society they may represent. With the necessary restrictions that must apply to his work, his office is always open for an audience with him by the humblest resident in a Victor-Monaghan village. He unconsciously contributes materially to the well-selected motto of the organization—"More than a place to work"—when, as has been the case upon occasion, he consents to occupy the pulpit in one of the village churches at some special function. This is called an unconscious con-

tribution, because Marchant never did that, or anything else, for "effect". He really enjoys doing things like that—and therein is another insight into the man.

This characteristic has made him popular in his own sphere of living, in the New York trade, among his fellow mill executives.

It has undoubtedly been this combination of the indefatigable worker, the sound thinker, and the good mixer, which have been the reasons why Tom Marchant has been called, even to the extent almost to his generous ability and willingness, to positions of activity in the industry of which he and his organization are a conspicuous part. For this latest job as president of the organization of all southern cotton manufacturers certainly does not find him unprepared for or unacquainted with the very definite responsibilities attaching to the office. Not counting the many affairs of a local and civic nature naturally devolving upon a business man who is ready to assume work and responsibility, Tom Marchant has already rendered yeoman service to the cotton-textile industry. For three terms, during 1928, 1929 and 1930, he served as president of the Cotton Manufacturers Association of South Carolina, and through his leadership, hard work and organizing ability, that association was developed into an active, representative and effective body. The most prominent achievement was the conduct of an extensive advertising campaign on behalf of the cotton millls throughout the state, but there was achieved, in a manner less publicly apparent, but real and effective nevertheless, the development of a spirit and an attitude of cohesion, of solidarity, of mutual understanding and goodwill, among the membership which has and will be exhibited in material ways for the good of the industry.

The Marchants at Caesar's Head

In the yard of the cottage: Mrs. Marchant, Tom, Jr., Preston, and Tom, Sr. . . .

Marchant was one of the prime movers in the organization and development of The Cotton-Textile Institute. He has been a member of the executive committee of that organization for a number of years, and in 1932 served well as its southern vice-president, and was for a time chairman of its print cloth group. He is at present a member of the executive committee of the recently-formed Print Cloth Group.

Business affiliations, in addition to his position as president and treasurer of Victor-Monaghan Company, include: directorships in the First National Bank of Greenville, the Piedmont and Northern Railroad, Piedmont Manufacturing Company and Aragon-Baldwin Cotton Mills; he is as well vice-president of the Marion Manufacturing Company, Marion, N. C., and of the Wallace Manufacturing Company, Jonesville, S. C., where he was for a time president, until in 1930 W. H. Beattie succeeded him in that position. Marchant is a steward in the Buncombe Street Methodist Church of Greenville and one of its most active members.

This rather imposing list of connections would seem sufficient to round out fairly well a man's capabilities, but it is a known fact that, unofficially, Marchant is called upon almost constantly for service to the industry. His associates have found him not only ready—ready in the sense of wanting to serve unostentatiously and without personal conspicuousness—but competent, for many a task requiring work, tact, judgment and diplomacy. The leaders of the industry seem to have learned that when there's a particular job is to be done, Tom Marchant is the man to do it, and when they give it to him he generally does it, and does it well—the while not neglecting his first responsibility to his own stockholders and employees.

In this work with and for his fellow-manufacturers, as in his own business activities, there is manifest another prominent trait in Marchant's make-up, and that is a thorough fairness and honesty of action. To him, when a course is proven to be the right one, it should be followed faithfully and unswervingly, and his own intense nature in this respect but naturally creates within him an impatience with an inability on the part of the other fellow to see the way. This is not dogmatism, for there is nothing opinionated or obstinate about Marchant. Neither is it that he considers the other fellow bigoted or incorrigible. But because, to his way of thinking, based on a clear interpretation of facts, he feels that a course is the right one, and because he has arrived at what appears the obvious conclusion through sound, logical procedure of thought, any objection which persists in the face of facts is difficult for him to comprehend. At the same time, he harbors no resentment because of disagreement, but rather concludes that the right approach has not been presented, and seeks in a diplomatic, fair and straight-forward way to determine that approach, holding his own mind open for logical conviction and change of opinion at any time.

There is a truism which adapts the term "playing ball" into the realm of business activity, and as has been said, "playing ball means hitting the ball—not the umpire"—and that, too, is a tenet of Marchant's creed.

Thus far the picture may appear as presenting a man of serious mien, weighted with the responsibility of his activities beyond the point of congeniality and cordiality, and well might this assumption be made in the light of his exceptional business activity. But, it should be stated emphatically, with Marchant this is not the case. To the contrary. He is a congenial and delightful companion, easily approached, and possesses a pleasing personality which draws people close to him. An easy talker—and a good lis-

tener—he is ready to express definite convictions when the occasion demands, and to absorb and evaluate the viewpoint of his companion. He has an especial interest in current events. He carries into his social relationships the same intensity that marks his work and reveals a rare sense of gratitude and appreciation, and a genuine thoughtfulness of others. He possesses, happily, that rare faculty of being able to shed business thoughts when he is off for recreation, so that he returns to his desk freshened and relaxed, fit again to assume his responsibilities.

While in no sense given to undue levity, Marchant has, happily, an abiding sense of humor. His associates have seen it manifested time and again, when, in a period of relaxation during a campaign or conference, they have unconsciously remained under the tension and strain of the matter, Tom has relieved the situation by some naturally witty or humorous statement or action. This but demonstrates his faculty of throwing off unnecessary burdens quickly, and taking full advantage of periods of refreshment.

On October 29, 1912, Marchant was married to Miss Jessie Speed, of Abbeville, S. C., and two fine boys have blessed their union. Thomas Mood, Jr., is 18, and is a student at Davidson College, and Preston Speed is now 15 and in preparatory school in Greenville.

Marchant has no hobby in the accepted sense of the word. His tastes are simple, and he is essentially a "home man". At 631 North Main Street, which has been home to the Marchants almost since their marriage, he finds relaxation and enjoyment with his family. They have a summer home in the mountains near Caesar's Head, about thirty miles north of Greenville. Marchant has never taken an official vacation, but the family is in the mountains during the summer, and usually week-ends find Marchant up there with them, "roughing it" in some old clothes, tramping through the woods with the boys, or a group of friends—doing a little hunting or fishing, and driving back to Greenville early Monday morning.

He is totally devoid of any sense of ostentatious action, of fanflare and trumpets. Personally modest, yet possessed of the confidence which comes of strong convictions, he is unobtrusive but not bashful, positive but not obstinate, easy of manner and democratic in a natural, sincere way. He has an astute political sense that enables him to interpret people and events, and which he uses perhaps without realizing that he is doing so.

This new job of his, as president of the American Cotton Manufacturers Association, is conferred, no doubt, in recognition of his service to the industry, and in the realization of his fitness for it. It is accepted by him, undoubtedly, not as personal flattery, but first, because he always has done to the best of his ability the things his friends have asked of him, and, second, because it presents an opportunity of genuine service. And it is a safe prediction that the Association affairs will, in the year ahead, reflect his energetic enthusiasm and effective activity.

Lady Pepperell Shop at Opelika, Alabama.

The accompanying illustration shows The Lady Pepperell Shop, which has been erected and opened at the plant of the Pepperell Manufacturing Company, Opelika, Ala. The shop, which is an attractive building of colonial design, furnished with true reproductions of early American maple, is located on the main highway which passes by the Pepperell plant. The purpose of the shop is to familiarize people of the South with Pepperell products and "the fact that the Pepperell label is on cotton garments for every member of the family." The shop is stocked with Pepperell sheets, blankets, shirts, pajamas, shorts, boys' suits, ladies' pajamas and dresses, made of Pepperell materials. Mrs. Homer M. Carter, wife of the agent of the Opelika plant, is manager of the shop, which offers the Pepperell products for sale, the proceeds going to the maintenance of a nursery school in the mill village. Visitors and tourists are cordially invited to inspect the shop and its products.

The attractive Lady Pepperell Shop recently opened at Opelika, Ala.

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Plans for Bedspread Opening.

At a meeting of the Bedspread Group in the Cotton-Textile Institute on April 14, plans were discussed for holding uniform openings of bedspread lines for the fall season during the week of July 10-15. In making its plans for this occasion, the group was greatly assisted by advice from Herbert Gutterson, president of the Institute of Carpet Manufacturers of America, who described the procedure followed by the carpet trade showing their new lines twice a year. Mr. Gutterson pointed out that uniform openings in his group have taken the place of widely separated individual openings by the large interests, which have saved the time of buyers as well as aiding them in judging market conditions.

Facts developed at the meeting indicated a relatively heavy movement of bedspreads in recent months. Sales during March were 25 per cent in excess of production. Legislative and other uncertainties have apparently had their effect upon inventories as stocks have continued to dec'ine and are now 34 per cent below a year ago. At the same time unfilled orders are considerably in excess of last year at this time. During the first quarter of 1933 shipments of bedspreads have amounted to 94 per cent of the same period last year which, in view of the hesitation in business that prevailed during a part of the first quarter of this year, is to be considered an encouraging record.

We Must Replace Our Indifference with a Policy of Action

Fourteenth of a Series of Articles on "Putting the Textile House in Order"

By Michael Welsh

THIS is a frank criticism of the attitude of most textile manufacturers as to matters of an outside character that have a bearing upon their industry; an effort to stimulate interest in and action regarding apparently inevitable changes that must come; an urge for self-control and regulation to obviate the necessity of less effective outside influence.

TO SIT idly by and await developments is an extremely short-sighted policy, even during normal times. Such a policy now will prove to be extremely hazardous. Recent happenings are demonstrating the potentialities of legislative proposals, which in their incipiencies appear to be without backing of serious proportions. The strength behind one such legislative bill surprised the introducer of the measure himself.

Due to the fact that this article must be submitted several weeks before publication, the ultimate fate of the 30-hour work-week bill is not known at the time this article is written, though it probably will have been determined by the time this issue of COTTON comes from the press. Regardless of the merits and demerits of that particular bill and the ultimate action of the United States Congress, the fact remains that the textile manufacturers as a whole sat idly by and ignored the bill until after it had passed the National Senate. In regard to the lack of interest in the bill, Senator Black himself stated that his introduction of the measure was not a gesture, although it seems to have been so regarded generally. During the previous session of Congress when hearings were held on the Black Bill, Mr. Black said that the interest displayed by the country generally was *nil*. Requests for information, invitation to present evidence to indicate how the bill would affect various interests, brought forth very little response.

There is no intention here to discuss the provisions of the Black bill; but the apparent drowsiness on the part of textile manufacturers at a time when they should have been alert; their indifference when they should have been finding out what it was all about; and their failure to anticipate the introduction of legislation of the nature of the Black bill have brought to light a glaring weakness somewhere in the industry's make-up. Therefore, in the opinion of the writer, no greater service could be rendered to the textile industry than that of inducing the members to realize the importance of keeping informed.

Of course it is realized that some few leaders have kept informed and have of late waged an aggressive battle in behalf of the industry's welfare, but without any intention of doing other than paying tribute to the efforts of these gentlemen, which in many cases meant personal sacrifices, the writer is of the opinion that the textile industry as a whole has made a rather poor showing, not only recently, but during the past decade or so, in developing a needed plan for the protection of its welfare and for the promotion of a real program of mutual progressiveness.

Of course the work of the various trade associations and groups should not be ignored or discounted, and it should be realized that their restricted accomplishments have been primarily a result of the limitations of their granted powers and the inadequate active support and co-operation of the industry as a whole. In other words, most of these organizations have really functioned admirably under the existing circumstances.

The group concern of the textile industry should not be confined or restricted to defensive measures. A few far-sighted executives have been of this opinion for some time, but the average mill head has failed to truly realize the importance of co-operative thought and action until conditions arise when defense against one thing or another is deemed imperative for individual protection. He fails to realize that frequently anticipated plans and tactics would make defense measures, which often prove futile, unnecessary. Many manufacturers at this time are of the opinion that the principles of the Black bill are not bad, and that something should be done to give more people employment. Many are also admitting that something ought to be done about the competitive hardships inflicted upon some plants by the low wages paid by others. The same people, however, are of the positive opinion that the above mentioned bill is extremely objectionable and would be disastrous if enacted in its original form.

The textile industry, like other industries, must decide for itself whether it will develop and submit its own social and economic legislation to take care of changing conditions or whether it will by its indifference and inactivity be forced to submit to that emanating from other sources. It is very difficult to stem the tide of impractical or radical movements when existing conditions demand changes and when they are not developed by those possessing such experience, knowledge, ability and practical common sense as to assure their soundness. Just who is to blame if plans of theorists, radicals and others not

competent of thoroughly understanding practical conditions and problems are seriously considered as methods of correcting conditions which are generally recognized as being out of alignment, when those who could and should by virtue of their intimate relationships with the problems fail to seriously interest themselves in the solution of them?

If our nation is to maintain her Democratic principles and preserve for her citizens those individual rights which have perpetuated the spirit of her founders, the utmost caution must be exercised during such times as the present. Intelligent practical plans rather than hysterical thought or hypotheses of radical or theoretical minds should control our country's policies, systems and methods. Our nation can not hope to remain democratic in principle unless her industries remain so. Unfortunately the term industrial democracy has been so abundantly abused through usage by revolutionists and theorists that the writer uses it with a great deal of reluctance, but at least one definition of it expresses just what he believes our industries should seek. The control and regulation of industries by unrelated individuals or groups is assuredly not democratic. We have reached a stage in our national development where certain changes are inevitable. It is to be hoped that executives of the textile industry will realize that fact and instead of being rebellious will of their own accord unite in a determined effort to find their own way to a satisfactory method of so regulating and controlling production, hours and other pertinent factors of operation, as to stabilize employment and help eliminate drastic economic cycles.

In the last article under this series (page 42, February 1933 COTTON) a plan of industrial regulation and control was suggested. Recent developments have strengthened the writer's belief in the suggested plan. It, of all such plans which have been recently made public or introduced, is the only one which appears to advocate the preservation of the important American principle of democracy.

If there is to be a regulating body for the textile industry, it should most assuredly be composed of those who are familiar with and are directly interested in the textile industry. If, however, the textile executives do not keep their fingers on the pulse of the times and do not actively and intelligently make plans to solve the present and future social and economic problems of the industry, they will soon discover that they have been deprived of all voice in the matter.

This article is written for the very definite purpose of attempting to stimulate thought and action on the part of cotton mill men. The writer is not an alarmist, but he sees grave dangers ahead unless mill men become actively interested in the affairs of their industry. A few days ago a member of the faculty of a state university remarked to the writer that manufacturers, having refused to take advantage of their opportunities to solve their own problems, would be forced to follow plans mapped out by others. We differed with this professor, first on the grounds that the manufacturers have not failed entirely, as has been intimated, and second, because there still remains the opportunity for industry to plan its own course.

Co-operative group planning is an indispensable step if the textile house is to be put in order. This is no time for indifference or procrastination on the part of mill men.

Urges Interest in Campaign for Better Cotton Seed.

Donald Comer, president of Avondale Mills, Birmingham, Ala., and vice-president of Southeastern Council of Industry, has written to the cotton mills of the southeastern states, calling their attention to the fact that the Southeastern Council at its last annual meeting adopted as one of its programs the urging of the cotton mills of the southeastern states lead in the campaign for better cotton seed. Mr. Comer's letter said in part:

"This could be accomplished by any one of several plans—a meeting of the local bankers and merchants could be sponsored by a luncheon club or by the Chamber of Commerce, or, by a meeting called by any group interested in stressing the value and need of this program. South Carolina has been outstanding in its effort to improve the staple of its local cotton. There are communities in all the other states that have, either through the initiative of a local banker or under the guidance of a farm demonstration agent, or some cotton mill or farm group or some other agency, already made a start along this line. Anything that can be done by anyone that will increase the price of this farm commodity and thereby increase the purchasing power of the community to that extent, will be helping.

"Those of us who spin cotton know to what extent short fiber, or buzz-fuzz, has been penalized during recent years; we know the trouble it gives us. We know the premium value that attaches to full inch or inch and one thirty-second cotton, and therefore are able to give first hand information to farmers in our local communities on such matters.

"There is nobody who has been more outstanding in the general program of improving cotton seed and cotton fiber than David R. Coker of Hartsville, S. C., and he has published pamphlets giving detailed instances of increased values accruing because of the use of good cotton seed. He would be glad to give you all the information that you want about the matter. Good seed can be had, of course, from many other sources which you may know about—the main thing, though, is to give your approval and support and take the lead in something that will mean so much to our community, so much to us as spinners, and so much toward improving the purchasing power of the cotton farmer."

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Children's Dolls of Cotton.

In step with other fashion trends, children's dolls are "going cotton" this season. According to the Cotton-Textile Institute, National Cotton Week will be the occasion for feature promotions of fabric dolls and play accessories of cotton. Reports from the toy trade indicate that the gingham doll and the calico cat already are commanding juvenile interest of boom proportions. There are even "trousseaux" for dolls featuring cotton ensembles that include everything from beach pajamas and sports wear to school jumpers and party frocks.

Stuffed rabbits, teddy bears, friendly dogs and monkeys are this spring dressed in bright ginghams. Doll houses are equipped with curtains and drapes of crisp cotton. Slip covers for doll chairs, spreads for doll beds, and ruffles for bassinets are gingham and organdie.

A Study of the Prospects as to American and Foreign Cotton

By Aaron Hardy Ulm

A GENERAL comment upon the present and prospective situation as to cotton production, in America and in foreign countries, is given here for the mill man who should be interested in coming events in relation to his raw material . . . . . .

VIEWED in the whole with reference to all of its manifold—and anomalous — aspects, cotton has held its own better than any other product of comparable volume has done under the strains and stresses of the last several years. Hence the feeling in authoritative quarters as this is written that a larger farm acreage will be devoted to cotton growing this year in the United States and perhaps the world than was so employed in 1932. Southern farmers have found that their greatest security is in cotton, which in the last two years has proved to be about the most dependable of possessions—not omitting even cash money.

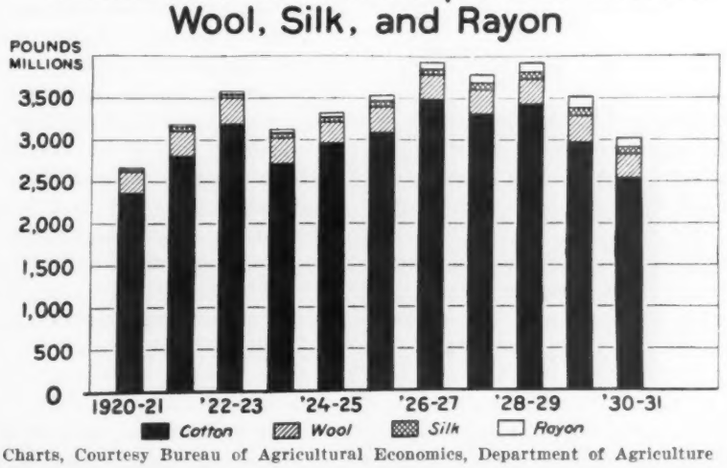
The Influence of Weather.

Before this can be published a more definite notion than can be formulated now will be established as to this year's plantings of cotton. Meantime, acreage prospects may be affected by events which were in a state of flux—such as Federal "farm relief" measures—when this was written. However, mere increase or decrease in the total of acreage planted to cotton this year is not likely to have much realistic bearing on prospects as to the supply of cotton that will be available during the next season or two. For whatever the actual plantings, there is scarce possibility of the supply as a whole not being well above consumptive demand during the next two or three years. So the question of supply is, for all practical purposes in the calculable future, largely one as to the extent to which a continuing abnormal, but as to the future not definitely measurable surplus will affect prices.

Although by its nature the most fundamental of all ponderable equations entering therein, acreage has not been in reality the most guideful factor in the sphere of cotton supplies during the last several years. Conditions affecting consumption have been of as great importance as variations in the totals of acreage planted to cotton have been—and the sun, or weather, has been of even greater importance. But for the weather factor the available supply of American cotton this season would have been only about the average of the ten-year period ending with 1930. The statement of course assumes that other conditions would have been as they were even though the weather factor had been of only "normal" influence.

In 1931 unusually good cotton producing weather added about 4,500,000 bales to what would have been a "normal" crop on the basis of average per acre yield during the preceding ten years, and in 1932 about 1,500,000 bales were similarly added. For the greater part of the abnormal surplus of American cotton accumulated during the last two years weather is to blame. But for the restrictive effects of consumption in 1930 of the Federal Farm Board's abortive effort to "control" cotton prices together with abnormal per acre yields in 1931 and 1932 there probably would be no large surplus at the present time.

Whatever else is done by way of "farm relief", it is wholly unbelievable that any Federal agency will again apply measures retardive of the free flow of cotton into the markets of the world. What the sun will do or not do is less safely predictable. It is quite unlikely that the sun will beam so beneficently on the cotton fields during the next few seasons as it did during the last two. The courses of long-range weather cycles have not been established, but it is pretty well proved that such cycles operate and are governed mainly by solar radiation. The cotton plant is highly responsive



Charts, Courtesy Bureau of Agricultural Economics, Department of Agriculture

to light and heat from the sun. It is not unlikely that before long it will be demonstrated that variations in the per acre harvestings of cotton in this country are closely linked with cycles of solar radiations. In the immediate connection, it is worth noting that in a statement put forth on April 7 Dr. Charles C. Abbott, secretary of the Smithsonian Institute and the foremost authority on solar radiation, said:

"For two years the average radiation of the great star (the sun) into space—from which the earth obtains heat and light which makes life possible—promises to be below normal. It has been consistently higher than normal since 1930."

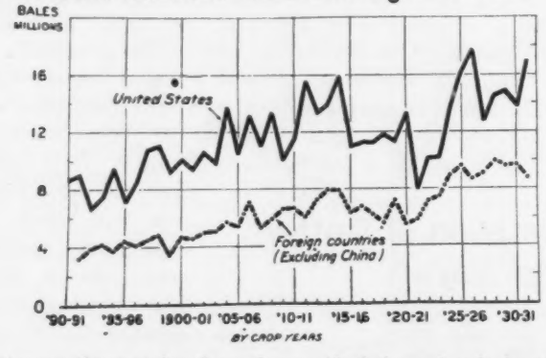
In the long run the effects of weather variations balance themselves. A season of bad weather now would have more than usual effect on cotton production. This is because of sparse use of fertilizers by cotton farmers during the last three seasons—and prospectively a still sparser use this season,—together with other economies employed in producing cotton.

Per Acre Yield to Be Less.

Thus all the probabilities are that the per acre yield of cotton in the South will average below normal the next several seasons. Actual plantings are likely to average larger than last year's. It is possible that acreage increases will be prevented or restrained by control measures. But no such measures ever had much effect in the past and the effect more often has been expansive than curtailing.

Statistical data indicate that, whatever else is happening to other things, cotton still conforms to the fundamental laws that have governed its course since it became the principal farm product of the South and a raw material of international importance about a century and a half ago. The stress of

Cotton Production. U.S. and Foreign Countries

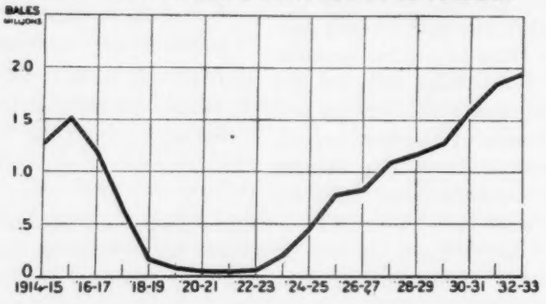


extreme depression has shown that America is in virtually as strong a position as to cotton growing as ever and that the southern part of this country is almost as dependent as it ever was on cotton farming.

With the volumes of both international and American foreign commerce cut more than in a half, the world movement of cotton has held close to normal, with American cotton holding a little better than its former proportional place therein during the last year or so. Always its best mainstay, cotton has been the savior of American foreign trade during the last two years. It is the one major product to which virtual free trade markets are open throughout the world, and, despite the general bounding upward of tariffs and restrictive devices, there is little danger of cotton's happy status in world trade being changed soon. Most other American producers of farm staples face a serious threat of virtual exclusion from the markets of the world. But cotton growers can depend on a large scale world demand for their product indefinitely.

Therefore, the long prevailing hostility towards cotton growing in this country has been allayed con-

Russia: Cotton Production, 1914-15 to Date



siderably by recent events demonstrative of underlying elements of great strength and safety in that branch of American farming. In discussing the subject with the present writer, the U. S. Department of Agriculture official who has been in most direct touch with southern farming during the last twenty years said:

"We have learned that cotton farming is the most secure of all, provided those engaged in it produce all they can of their home supplies—as most of them have been doing in recent years. We have learned also that the southern farmer's market for other staples, excepting tobacco, is not a sufficient basis for much shifting from cotton. Taking everything into account, I'd say that the outlook for southern agriculture, with cotton continuing to be its principal product, is the best of all outlooks for farming."

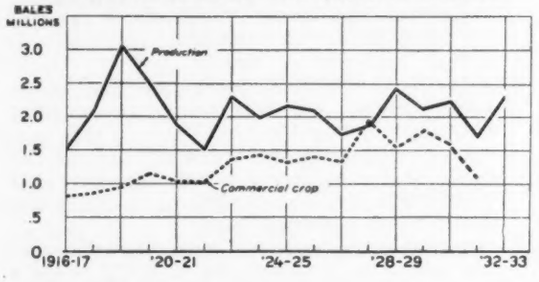
Foreign Cotton Production.

It is one of the many anomalies of cotton that low prices usually strengthen the foundations of its production in the South. A reason for this is that there is a distinct corollary between low prices and the international position of American cotton. The proportion of American cotton entering into world consumption invariably falls in a period of high prices and rises when prices are low. Thus when prices fall to extremely low levels, American cotton, being in a preferred position then, finds new quarters of consumption abroad, and it retains some of those after prices rise. This has happened extensively in the last two years, most notably in the climb of American cotton in Oriental consumption—its rifest quarter of competition with other cottons.

During the 1920's as a whole foreign cottons made impressive advances in world consumption, even rendering American distinctly secondary—that is, as to other cottons as a whole,—in the totality of consumption outside the United States. Production

of cotton in other countries as a whole increased somewhat more than did production in the United States. It is noteworthy, however, that production did not increase particularly—but rather tended to decrease during the latter half of the period—in areas of traditionally greatest competition with the United States. In the last five to eight years neither Egypt nor India has quite held its former own in cotton production. There are no good figures for Chinese production. Such figures as there are do not indicate much established increase, although factory consumption in China has risen greatly. A large

China: Cotton Production, 1916-17 to Date



increase in Egyptian cotton acreage is in prospect this year but the reported amount to be allowed, under the rigid control measures there will not bring the total up to its former maximum. In India, where crude customs coming down almost unchanged through the ages control nearly all cotton farming, weather, as typified by the monsoon, is usually much more of a factor in production than is increase or decrease in acreage. A man who spent several years in touch with cotton in China is authority for the statement that American cotton growers need have no fear of great enlargement soon of bases of competition with them by the Chinese. China, however, is the "X factor" in the cotton-growing world—little is truly known about the real extent of cotton farming there.

Africa's Increasing Importance.

It is in incidental areas not usually rated as highly important that competition with American cotton has risen most impressively in recent years. African production other than in Egypt increased from less than 100,000 to about 500,000 bales between 1914 and 1930. But in the African area of greatest increase—the Sudan—cotton growing is now threatened by serious plant diseases, and acreage cannot be much further increased without huge expenditures, not now feasible, being made on irrigation projects. There is little threat of any other African area becoming a huge producer of cotton soon. But the way cotton growing has spread—though in the main fragmentarily—over the continent indicates that Africa probably will become the seat of cotton growing supremacy when and if the United States loses control thereof.

Cotton is now produced in more than 50 widely scattered countries or lands, inclusive of practically all those on the continent of Africa. The number has been increasing, and cotton is holding on somewhat better in most new areas than it used to do. However, no new area of cotton growing, nor expansion in an old one, has yielded results seriously threatening King Cotton's American throne. The aggregate of cotton growing expansions abroad in the last fifteen years is somewhat threatening; yet the net results of those expansions constitute an equation of change less ponderable than the advances of cotton into new domain in this country at the same time. The statistics of the westward, and somewhat northerly, movement of cotton growing's center of gravity in this country in the last fifteen years indicate that the United States can and will hold its supremacy as long as there is need of it.

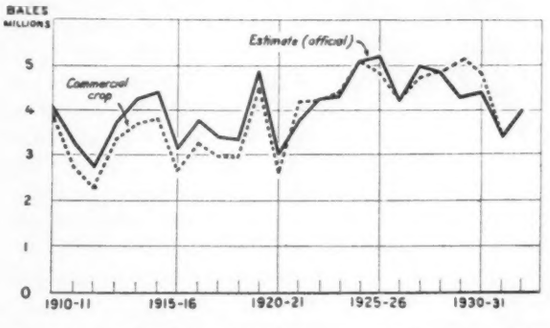
The Soviet Reduces.

The cotton growing development abroad that has been most impressive in recent years is that in Soviet Russia, where it looked a year or two ago as if there was arising quickly a virtually new cotton growing empire that soon would be a rival of that in the United States. The best information at this writing is that the equivalent of about 1,800,000 bales of cotton was produced in Russia in each of the last two seasons. A decade ago only a few thousand bales a year were being produced there. Yet the highest production claimed for any recent year was only 15 to 25 per cent above the maximum annual production recorded by pre-communistic Russia.

"An outstanding feature of the 1933 Russian cotton plan is the abandonment of efforts towards a further large expansion in acreage," says a report made by an American consul after a thorough investigation. This year's acreage is expected to be about 12 per cent less than last year's.

Cotton growing seems to have been restored fairly well in the old areas of Russian production. Most of the cotton planted in those areas is irrigated, the per acre yield is high and the average staple length about 1⅛ inches. But practically all reports indicate that most of the cotton growing attempted in

Cotton Production of India, 1909-10 to Date



new areas and without irrigation has been a virtual failure. A large per centage of actual plantings in those areas has been abandoned every year, the per acre yield has been small and the quality of the cotton about that of upland American.

Russia, however, produced nearly all the cotton consumed in its mills during the last three seasons. About 100,000 bales a year have been imported from Persia and China, and a small amount of Russian cotton has been exported. Russia has imported no American cotton since 1927.

Practically all the authoritative reports are to the effect that, whatever the expansion in cotton growing and manufacturing there, Russia will not be in position in many years to export either raw cotton or cotton goods on a large scale. The Soviet authorities seem to be putting more emphasis now on the development of cotton manufacturing than on further expansion of cotton farming. Russian cotton spindleage has been increased materially but a great deal of the apparent increase evidently partakes of replacements. There has been an acute and augmenting shortage of cotton products in Russia since the war. The immense population, among which cotton textiles are preferred above all other kinds, makes Russia the probably world's prospectively most expansive consumer market for cotton goods. From now on that market is likely to expand more rapidly than cotton production in increases in Russia, though it probably will be supplied in the main by Russian manufacturing. It is easy to imagine Russia absorbing, before long, as much cotton as is now produced in the United States.

British observers are of the opinion that Russia soon will be importing increasingly large quantities of cotton again, and, perhaps for a time, cotton goods also. Large imports of cotton will mean heavy drafts on the American supply. This will be expedited by the establishment of diplomatic relations between Russia and the United States, which is likely to be done in the not distant future.

Recovery of the Russian market, retention of gains made in the Orient in the last ten years, the restoration of the cotton textile industry in Great Britain, a steadying of affairs on the Continent of Europe, with a revival of normal consumption in the United States, would mean a demand for American cotton portending rapid elimination of the present abnormal surplus. It is not unlikely that before 1940 the world will be fully prepared to absorb, at prices on parity with those of, say, the 1900-1912 period, 18 to 20 million bales of American cotton a year.

Statistics covering the advance of cotton, especially American cotton, during the 19th century show that there would be nothing of astonishing kind in the world's consuming an average of 20,000,000 bales of American cotton a year. If the advance had continued at the 19th century rate, the world now would need, with production in other countries as it is, an average of 25 to 30 million bales of American cotton a year. Basic potentialities of such a need exist today, and it is not unlikely that many of the potentialities will be transformed into realities once the world becomes consumptively normal again.

History shows that cotton with, as a rule, its products, is the first of the major materials to feel the effects of severe economic disturbance. For once the effects of such a disturbance have not been as baneful in the sphere of cotton as in the spheres of most other basic materials. Cotton usually is the first to benefit from economic recovery. But the raw cotton world rarely has been burdened in times even of general depression with such an overwhelming surplus as a too-beneficent nature imposed on it in the last two years. However, it would take only a year of peak consumption for that surplus to be absorbed. It is noteworthy that, according to U. S. Department of Agriculture findings, the present surplus consists largely of above-average staple length cotton. There is almost a shortage of low grade cotton.

Careful examination of available data, supplemented by interviews with experts, notably those of the Federal Government, who follow the subject closely, indicate that the following are the outstanding probabilities as to cotton:

1. A fully adequate supply for reasonably expected demand during the next two seasons, with American production falling off somewhat and foreign production remaining about as it was during the last two seasons.
2. A tendency towards acreage increase in the United States, but with scarce prospect of plantings during the next two or three seasons reaching the record maximum of the past; and a rather low average per acre yield until farming conditions in the South get back on a normal basis.
3. A rising price tendency, with American cotton going to at least the 10-to-12 cents a pound pre-war standard before the next season ends.
4. A more stable price level than prevailed most of the time during the last fifteen years.
5. More attention by growers to the quality factor, particularly when given support as to that by traders and manufacturers.

Further interferences by Federal Government are in prospect. They are likely to have to do mostly with the immediate operations of farmers and to aim at modified control of acreage. There probably will be some interfering with the marketing of cotton, especially with relation to the big exchanges. But there is in prospect no governmental interfering of the wholly demoralizing kind attempted so disastrously by the Federal Farm Board.

Study of Merchandising Methods in Textile Industry.

The Harvard Business School, Boston, Mass., has just published a cotton textile study entitled "Merchandising of Cotton Textiles: Methods and Organization", presenting a critical examination of merchandising practices in the industry obtained from 120 companies, and recommendations for the correction of the weaknesses revealed by this study. The work was carried on by the Division of Research of the Harvard Business School under the direction of Professor M. T. Copeland and Assistant Professor Edmund P. Learned. It was financed by the Textile Foundation, Inc., organized by Act of Congress, for scientific and economic research in the textile industry.

The study includes merchandising and organization problems for household products, style merchandise, men's wear, grey goods, and cotton yarn. It considers the effects of the current depression, but its chief concern is with the explanation and possible remedy of the persistently unsatisfactory conditions of the last 13 years. The price is $1.50 per copy.

Raleigh Meeting Discusses Modern Carding Practice,

Cork Rolls and Long Draft Spinning

Reported by Robert W. Philip

AN intensive discussion on a selected few questions of timely interest was conducted by the Eastern Carolina Division of the Southern Textile Association, and is reported here. Spinning came first, and cork rolls, calf-skin and leather covering, and long draft spinning were thoroughly discussed. In the meeting on carding problems, the subjects of one-process picking, 5-roll drawing, cork rolls on fly frames, and neps were among those covered . . .

A PRACTICAL discussion meeting concentrated upon a few subjects on carding and spinning was held by the Eastern Carolina Division of the Southern Textile Association, at the textile school of N. C. State College in Raleigh, N. C., on Thursday, April 27th. The thought of the committee in arranging the program was to have only a few subjects for discussion to permit intensive discussion rather than hurried comments on a large number of topics, and the resultant discussion justified this decision. The major subjects covered under spinning were cork and calf-skin top rolls and long draft spinning; and one-process picking and the new single-process drawing frame, comprising a sliver lap unit and a 5-roll drawing frame, were covered in the discussion on card room matters.

The meeting was in charge of E. M. Holt, assistant manager, Erwin Cotton Mill No. 6, Durham, N. C., who is chairman of the division. Mr. Holt, and D. F. Lanier, vice chairman, and M. R. Harden, secretary, were re-elected to these positions at the Raleigh meeting last month.

Discussion on Spinning.

After the preliminaries, including talks by Dean Thomas Nelson of the textile school, and Dr. E. C. Brooks, president of the college, Mr. Holt turned the meeting over to D. F. Lanier, superintendent of the Oxford (N. C.) Cotton Mills, who led the discussion on spinning. The first discussion asked for was experience with cork and calf-skin top rolls on spinning, compared with sheep-skin.

Experience with Cork Rolls in Spinning.

The first man to report on cork rolls was R. H. Knight, overseer of spinning, Erwin Cotton Mill No. 6, Durham, N. C., who stated that "we have been on cork rolls for about six months. This is our first experience except a frame or two. We are getting very good results so far, with 13,000 spindles practically all on 22s and 23s. We are beginning to have the first frames re-buffed."

The question was asked whether, in re-buffing, it was the practice to take the rolls out a frame at a time or as each roll needed re-buffing, and it was explained that it is necessary to take out a side or a frame at a time.

P. B. Parks, Jr., superintendent of Erwin Cotton Mill No. 6, answered a further question by stating that he has as yet had no experience upon which to predetermine the length of time the rolls should run before being re-buffed. He said, "Since our installation was all so close together, all of the rolls being new, and with no experience, when we find a frame running worse than the others we re-buff it. We are keeping a chart on these so we will know when each frame comes out, and our experience on this will be tabulated so we will know the exact information on this for our numbers. In our case, running 10 hours a day, 55 hours a week, it appears that the time between the new roll and the first re-buffing would be about six months. This is with an average front roll speed of 138 r.p.m. on 22s. Of course, it is entirely theoretical, but I think that the nearer you get to the iron core of the roll, with the resultant less cushion, the longer the life will be between buffings because there is not such a big cushion in there."

E. M. HOLT, of the Erwin Cotton Mills Co., West Durham, N. C., who is chairman of the Eastern Carolina Division of the Southern Textile Association . .

J. L. James, superintendent, Erwin Mill No. 1, replied to a question by stating that it costs about 1½ cents per roll for re-buffing.

"You cannot change just one roll at a time," said Mr. Parks, "because you lose track of the individual rolls, and, furthermore, they are generally put in a frame at a time and should wear about the same, and therefore it is necessary to change a frame at a time."

Mr. Holt added that these rolls have the arbors turned down to ⅝-inch, and the finished diameter is 31/32-inch, giving 11/32-inch cushion, and he con-

firmed Mr. Parks' idea as to the life of the roll between buffings increasing as the diameter, and cushion, reduced. Mr. Parks explained that, as to re-buffing, he had referred only to the front roll, as his installation had not been in long enough to re-buff the middle and back rolls. He added that he has found it possible to take out a cork roll that is giving trouble, put it on the shelf for a few days, and put it back in to find it would give satisfaction. He added that, "we do not feel like it is worth while to move the rolls back and take out the back rolls and re-buff them and put them in the front."

John Rose of Henderson reported that they have been trying out cork, and are very much interested in it; that theirs have just been taken out for the first re-buffing.

L. B. Crouch, overseer spinning, Rosemary Mfg. Co., read some figures furnished by a friend of his in another mill on cork rolls, which showed a lower cost for the cork rolls, per pound of yarn produced, with no effect on the quality of the yarn, or the breaking strength. In his own mill he has been running 10 frames equipped with cork rolls for about 11 months, and reported that he has taken out only one roll out of 1,000. He said a thorough breaking strength test showed, for 22s yarn, an average number of 21.88s (which broke 73.6 pounds) from cork rolls; and an average number of 21.98s (breaking 70.25 pounds) from leather rolls. An ends down test showed 31 per thousand spindle hours on cork, and 38 on leather. He expressed himself as extremely pleased with the cork rolls.

Left to Right, M. R. VICK and D. F. LANIER, who led the carding and spinning discussions, respectively . .

"We have had some cork rolls running two years," reported M. R. Harden, superintendent, Erwin Mill No. 4, Durham, "and we have had some others for about a year and the ones running longest have been re-buffed twice. We put them in new and ran them for seven or eight months and took them out, and we have re-buffed them once since. When we first put in the rolls we were basing our ideas on what the cork people had told us, that we were going to get 11 months life between buffings, but from our experience we have not been able to go that long and get good results. We will have to re-buff them every six or seven months if we get anything like the results we got with leather rolls." Mr. Harden reported that it costs 1½ cents for re-buffing, and added that on leather rolls he averaged putting in one roll to the frame a day, or changing rolls approximately three times a year.

C. A. Davis, superintendent, Pilot Mill Company, Raleigh, reported that, while the men who did no changing of numbers might have good success with the cork, his experience at Pilot, in changing from 10s to 18s frequently, had not been satisfactory. He said there was no difficulty in changing from a fine to a coarse number, but the reverse change, going from the heavier to the finer number, caused a great deal of trouble. Mr. Vick brought out that, "it is an established fact that in going from coarse to fine numbers on any kind of a roll you will have trouble." C. S. Tatum, manager at Pilot, stated that, "you will find more trouble with the cork than with leather." He pointed out, however, that so far as fine numbers are concerned, Marshall Dilling, of the A. M. Smyre Mfg. Co., a fine yarn mill, is a great booster for cork rolls, that he runs them on 80s and is a great believer in them.

Several of the men present referred to the discussion of the Textile Operating Executives of Georgia on this subject, as reported on page 55 of our April issue. One man there quoted had said that he intended turning the arbors down, to get away from bad Monday morning start-ups. Mr. Holt said he did not believe this would remedy the trouble, for the reason previously covered, that the less cushion on the roll, apparently, the longer the running between buffings. This man, as Mr. Lanier commented, brought out that the cork rolls had reduced his roller cost at least 45 per cent.

L. B. Crouch reported that his numbers range from 11s to 22s, changing back and forth, and that he has no complaint on cork rolls that have been running 8 months, making these numbers from ¾ to ⅞-inch cotton.

D. F. Burns, general superintendent, Durham Hosiery Mills, stated that he had had the same experience as Mr. Davis—that in changing from coarse to fine numbers the work ran lots worse with cork rolls, with more ends down. Mr. Crouch said a friend of his who has 35,000 to 40,000 spindles on cork had reported no trouble, that he had been told that the only thing that would hurt the cork rolls was too much humidity.

M. R. Vick asked Mr. Davis whether he was running single or double roving, and Mr. Davis replied that he uses single roving mostly, 1.80-hank on 10s and 2.70-hank on 18s, and Mr. Vick stated that Mr. Crouch uses 2.80 and 3.20-hank, which makes a great deal of difference due to the difference in the amount of cotton going through the rolls. Mr. Crouch said he finds a difference of three turns in the front roll; that a good point is to cover as much of the boss as possible with the roving traverse. He said he had found, on a 1¼-inch boss, the traverse covering only half of this, and that he has his traverse go 1 inch on a 1⅜-inch roll. Mr. Harden admitted the advisability of as long a traverse as possible, but did not see how it was possible to have only 3/16-inch at either end of the traverse, and prevent it from occasionally running out the end.

With regard to humidity in spinning, with cork rolls, P. B. Parks, Jr., stated that "we started out with the idea of running, in our warp and filling spinning, a relative humidity of 65 per cent. We started at the top, and ran that way for a good long time, and then, after 4½ months, when summer time had gone, on Monday mornings we began to notice on starting up on the cork rolls that had been run-

ning a long time that we were having trouble, and so we began to scratch our heads to see what the difference was on Monday morning. We thought of humidity and temperature, and the prints on the rolls from hanging over the week-end with the weights on, and so we experimented with carrying a higher temperature on Monday morning, and found that helped considerably. We found that every Monday morning with the weather mild and moist that our work did not run good. We did two things: we reduced our relative humidity to 55 degrees and thought we could detect quite a noticeable decrease in ends down, but we found that our old frames were running worse than the others for the first 45 minutes or so, and, after a conference with the cork men, we picked out one of the worst places and re-buffed those rolls, and we found that with the same conditions the ones that had been re-buffed were running normal. We drew from that the conclusion that the longer the cork ran the rougher the surface became, and the more it was subject to the ills of humidity and temperature. The little particles of cork got hard because of the temperature and humidity."

M. R. Harden.

"Has anyone had any trouble with black slugs of lint getting into the yarn from the collection of dirty lint around the end of the cork rolls after they have been run for some time due to oil on the end of the cork roll?" asked Mr. Harden.

"We got more lint around the ends of the cork roll and also more on the bottom steel roll," answered D. F. Burns.

"There is some lint that will come out on all rolls," explained Mr. Parks. "On the leather roll it rolls up on the top roll in the form of an eye-brow. It is also there on the cork, but it works toward the two ends of the roll. I think we might as well admit that we must pick eyebrows more on leather, and rolls more on the cork."

G. E. Moore, superintendent, J. M. Odell Mfg. Co., Bynum, N. C., stated that he had tried five sets of cork rolls, and that when re-buffing time came, he found so many that had come loose that he gave up the idea. He said also that Mr. Davis was correct as to the difficulty in going from coarse to finer yarns, with cork rolls. Mr. Harden said that while he had had a few to come loose, this was due to the cork not fitting the roll snugly. That later he had calipered all of his rolls and had gotten a good fit and had since had none of this trouble. He added that, "another important thing is that the glue should be applied to the inside of the cot as well as to the arbor; otherwise it will slip the glue right off the end of the arbor."

George F. Brietz reported that he had tried a half a side of cork rolls; that the necessity of turning down the rolls had prevented his going further with them.

J. W. Thompson, overseer of spinning, who has one side of cork rolls two months old and one side of calf skins, reported a comparative test. From five tests, 102 spindles each, he found an average number of 11.99s breaking 152 pounds on the cork, and 11.94s breaking 157 pounds on the calf skin. A ten-hour end breakage test showed 18 on cork and 49 on calf. Experimenting also on fly frames, on a slubber, 26 ends, he found no ends down on the cork, and 3 on the calf skin. On an intermediate, 2 ends down on cork and 4 down on calf skin. He said, "I noticed in my test that the cork has less ends down and runs better, although they got dirtier, with a lot of cotton round the ends. I had eyebrows on the calf skin. I am very much pleased with the calf skin roll."

Calf Skin Rolls in Spinning.

Mr. Harden, reporting next on calf skin rolls, said he had encountered difficulty, because the calf skin stretches more than leather, in that the cots became loose on the rolls.

At this point Mr. Holt reported some calculations he had been making regarding the cost of leather and cork rolls. He said, "it looks like if you took one end of yarn, buying three cork rolls would be 18 cents; then re-buffing the front roll at 1½ cents three times in two years would be 4½ cents, and re-buffing the middle and back rolls once would be 3 cents, or a total for two years of 25½ cents. One roll a frame a day on leather would be 3 rolls a year, or 18 cents, or two years, 36 cents, a difference of 10½ cents or 23 per cent."

C. S. Tatum.

With reference to calf skin, C. A. Davis of Pilot said, "we were going to put our whole spinning room on calf skins. When we first put them in they did not 'eye-brow', and we did not find any coming loose, but after a while we had so much trouble with eye-brows that I had to cut the spinners down to six sides and just put them to picking eye-brows. The longer they ran the worse they would 'eye-brow'. My seconds went up 20 per cent, and we went back to sheep-skin."

"In regard to calf skins," said W. W. Wilson, "I have been covering rolls for the last 30 years, and I now have 11 mills for which I cover rolls, and they are all on calf skins. The life of the calf skin is about three times that of the sheep-skin. I have mills running with ¾ of a roll to the spindle a year, and three mills using only a half a roll to the spindle." Mr. Wilson stated that calf skins must be properly applied, and that he has no difficulty with stretching. He reported also that he is installing equipment for applying spiral cork cots on cloth cushion.

The other spinning question was discussion on long draft spinning, and Mr. Lanier asked P. B. Parks, Jr., of Erwin Cotton Mill No. 6, to report his experiences with three different types. Mr. Parks said, "We installed long draft, with cork rolls, using several different systems with the idea of seeing which was the best. We have one system with two belts, and one with one belt and a self-weighted small leather covered middle roll. The third system

was one with four rolls without any belt, but I am not prepared to report any results on it because it has not yet been put into proper shape by the manufacturers for best results.

Long Draft Spinning.

"On the two-belt and one-belt system, we ran tests on the same number of spindles, with the same spinner, and all other conditions as nearly the same as possible, changing travelers in advance, fully 10 or 15 hours before the ends down test, and based on our experience on ends down we found practically no difference. We found a total ends down per thousands spindles of 30.9 on 23s on the two-belt, and 39 on the one belt. I want to point out that when you use a figure like that you must recognize that there are lots of ends down caused by other reasons. Another significant difference was ends down caused by cleaning. We analyzed the ends down, and on the one belt system there were more ends down from cleaning than there were on the other system, and that influenced the test so much I felt like it was worth while mentioning.

G. F. Brietz.

"It is considerably easier to clean the two-belt system without disturbing the end because if you disturb the self-weighted roll on the one-belt system you interfere with the drafting. With the two-belt system you do not disturb it in the spinning process. It is much easier to handle and also there is a lot of difference in picking the back clearers. There is on the other hand the matter of cleaning the inside of these belts. So far as our experience goes with cleaning, our preference would be the two belt system, but when the time comes for cleaning out the interior of the belts we may think different." Mr. Parks added that on filling, 23s, he has a mechanical draft of 17.55, with 3.50 twist multiple, and that the break is 80 pounds, with practically no difference between the two systems.

Long Draft "Has Arrived."

George F. Brietz reported that he had experimented with a trial frame of 18 spindles of the two-belt system, for two or three months, and made extensive tests, making .58-hank roving into 30s yarn, and running from 18 to 24 of a draft. While he stated that his mill is not in a position at present to equip the frames, he said there is no doubt in his mind that long draft is the coming thing. T. W. Mullen, superintendent, Rosemary Mfg. Co., reported tests also with a similar frame, and that while he came to the conclusion that there was not enough saving to justify equipping old frames with long draft, there was no doubt in his mind that long draft "has arrived", and that if he were putting in new equipment he would certainly buy long draft.

J. O. Edwards reported that he was recently in a mill that was making roving for the spinning frame from drawing sliver, but was unable to give any details.

The next man to report on long draft spinning was W. H. Miley, Jr., superintendent, Erwin Cotton Mill No. 5, Erwin, N. C., who said he has two frames, one of double-belt and one of single-belt, running on 8s warp and 13s filling, and "we have not had very much success. We started out on the warp yarn, making it out of slubber roving with a 15 draft. On both systems our ends down were 50 to 100 per cent greater, and our loom stops went up. We then made it out of intermediate roving, and it was some better as to breaking strength, but the ends down were considerably higher than our regular work and the loom stops were higher. The biggest trouble is in the lint collecting inside the aprons. On our coarse work we have a tremendous amount of lint and that seems to be much worse on the two-apron system, especially on the bottom apron. That sharp fluted roll in there balls it up and makes lumps. You cannot see them because the bottom apron is completely covered. The fluted roll in the double-belt system has a tendency to grind the inside of the leather cot and make lumps. We took out all of the steel rolls and cleaned them out in December. We have just finished overhauling our regular spinning. Now it has been a year on the regular and four months on the long draft and the long draft is in much worse shape. It seems to me that on our work it would be necessary to overhaul that at least three and maybe four times a year.

J. W. Cates.

"As regards the value of the two systems, all of the tests have been in favor of the single apron as to breaking strength, ends down and loom stops. On the single apron the lint collects on the inside of the apron, except that the single apron has a knurled roll and the lint collects evenly and forms a fine cushion, whereas on the other system the lint rolls up into balls."

Mr. Parks pointed out that perhaps some of Mr. Miley's trouble came from the fact that he had eliminated some doublings ahead of the spinning on the long draft system.

Cleaning Long Draft.

J. W. Cates, superintendent, Edenton (N. C.) Cotton Mills, stated that he has been told of savings through long draft spinning, and would like some concrete facts. Mr. Parks brought out that it costs as much or more to run, that the greatest savings come in the processes eliminated and the better work produced. He added that he is working out a system whereby the belts on his frames will be cleaned systematically. Mr. Harden brought out that even with more work and expense in cleaning, the long draft is certainly worth the difference. Mr. Parks stated that, "we take the position that we do not want to clean our work because it is dirty, but because we want to keep it from getting dirty." Mr. Knight, his overseer of spinning, stated that they

pick the rolls twice a day, front, and once a day back, and the spinners clean the aprons every month. This concluded the spinning discussion, and the meeting was turned over to M. R. Vick, overseer carding, Rosemary (N. C.) Mfg. Co., to conduct the discussion on carding.

One-Process Picking.

Mr. Vick first asked for experiences with one-process picking. He first reported for his mill, stating that, on colored work, he has no difficulty with one-process picking in getting the proper blending, with the aid of adequate bins. He said the mill was originally equipped as a white goods plant, and that when it was changed over to colored goods the picker room was over-crowded, but the subsequent adoption of one-process provides ample floor space for lap storage, etc., not previously available. He said they lose about 1 to 2 per cent of laps on the one-process, with a half-pound tolerance either way.

W. V. Byers, superintendent, Erwin Mill No. 2, Erwin, N. C., next spoke stating that "we have changed over all of our pickers, and we like it very much. We think it gives us an evener yarn and the results in labor saving are so obvious there is no need of referring to them. We first converted one picker five or six years ago. Our pickers are old, and we debated whether it was the right thing to change them all, but after running this one for two or three years we went ahead and changed the others and we have been exceedingly pleased. We also have to run blends and we have been able to do that by regulating our laps and the amount of cotton on the apron by controlling the feed. We get a better blend with the converted pickers than with the others."

With regard to labor saving, Mr. Vick said that one man now runs his pickers, where three were formerly used, and in addition spends two hours a day stripping cards. Mr. Mullen brought out that the power consumption of pickers was cut in half in installing these one-process, which are original model new single-process machines.

Kitson breakers and Atherton finishers were combined into single process at Erwin Mill No. 1, Mr. Harden reported, and satisfactory results were secured. He pointed out that any makes of pickers could be combined since the change is one of principle.

"We have converted 12 sets," said W. H. Miley, Jr. "They were Kitson breakers and Woonsocket finishers. We ran one a year and made tests of the sliver and yarn and got more even work in every process, so we went on and hooked up the others, with two eveners synchronized. We got a saving in labor and power and made better work. We are losing about one per cent in laps, and as far as blending is concerned we control this by putting up another lap right on the apron." Mr. Harden said that, "our theory is that it is no advantage to tear up the cotton after it has been already made into a lap. We use the same opening machinery, as formerly."

Mr. Cates asked for experiences with the new Gyrator for blending, cleaning and conveying, but no one present reported any experience with it.

Single-Process 5-Roll Drawing.

The chairman next asked P. B. Parks, Jr., to describe the new process of drawing installed at Erwin Cotton Mill No. 6. Mr. Parks explained that in this new system, a sliver lapper similar to a ribbon lapper is used, making a lap of definite length from 16 ends of card sliver, with just enough draft—about 1.04—to make it hold together. "This lap is taken to a drawing frame which has five rolls instead of four. We have most of our machines equipped with metallic rolls on the two back rolls and the three front rolls are covered with cork. We did have the two back rolls also covered with cork, but between the fourth and fifth rolls is some of the break draft, an excessive draft and very heavy, and we thought that the principal of having two metallic rolls in the back is better.

"In our particular installation we draft that stock on the drawing roughly 16, with the break draft coming between the fourth and fifth and third and fourth rolls. We took some samples from this and some from conventional drawing frames which had a draft of 5.09 and producing a 60-grain sliver each. We carried this through the slubber with the same draft there, and the intermediate and fine frame and spinning with everything the same except the drawing, and then we broke that yarn and found that we gained in breaking strength about ½ pound on the 5-roll over the 4-roll. The variation in the yarn from the 5-roll was 5 per cent and from the regular drawing, 6 per cent."

Mr. Parks was asked as to whether there was a saving in labor and he explained that his installation is not large enough to effect one, since two men are needed for the sliver lap machines. However, he said, if the installation was sufficiently large, it might be possible for a saving to be made, since his drawing tenders do not have a particularly hard job and could undoubtedly run more deliveries if the layout of the job permitted it. He added that the new drawing is in a mill with no evener on the breaker picker; whereas the conventional drawing against which the test was made has a one-process picker ahead of it.

Since the laps run out together through the new draw frame, he explained, there is no piecing to be done and no stops therefrom; no stretch; and it is possible to clean out as much as desired since the machine is stripped of stock at each doff. E. M. Holt brought out that tests on a sliver tester showed a variation in sliver from the new machine of 18 per cent whereas he was informed that on regular drawing this runs as high as 23 per cent. Mr. Byers stated that they have recently put in one of these machines and are well pleased with it.

Cork Rolls in the Card Room

Mr. Vick next asked discussion on cork rolls on card room machinery. Mr. Harden said he is very much pleased with cork rolls in the card room, anywhere there are solid rolls. Mr. Vick said he had had trouble with cork rolls on fly frames cutting the roving, but said when he examined the rolls he could

find nothing on the surface that might be causing this difficulty. Mr. Harden suggested this might be coming from the rolls tilting in the journals if shell rolls are used. Mr. Knight reported satisfaction with cork rolls in the card room, following 9 months experience.

5 or 6 Ends Up at Drawing?

The chairman next submitted a question as to whether it is better to run 5 ends up at drawing (on conventional drawing) with a draft of 5, or the usual 6 ends up with a draft of 6. Mr. Harden said, "we made a series of tests last spring on that, going from 4 ends up to 9, with most of the tests between 4 and 8, and we found that when we exceeded 6 doublings that the doublings did not seem to make up for the difference that we had to increase the draft. The new frames described by Mr. Parks would indicate that with the extra roll you can run a long draft, but on our tests on regular frames we got back to where we started, 6 gives us best results. One thing we did, however, that I am satisfied caused improvement and that was to shorten the draft with 6 doublings; we got down to where we have a draft of 5.09." Mr. Byrd and Mr. Tatum concurred in this opinion, as to 6 being the most satisfactory doublings and drafts, and Mr. Tatum added, "I think where you can do so, it is better to shorten the draft."

Chairman Vick then presented a question which had been handed in, as to the probable cause of excessive neps in running harsh Western and local cotton together. Mr. Vick expressed the opinion that it is much more satisfactory to run these staples separately. Mr. Parks brought out that it is possible that the inquirer is not grinding his cards as hard as he should; that Western cotton dulls the clothing more quickly. Mr. Harden pointed out that it is necessary to set as close as possible in order to reduce the neps, and told of an experience on colored cotton of learning that what had been considered neps were in reality immature fibers which had failed to take the dye properly. Another man pointed out that oftentimes improper speeds at the gin will produce what might be considered as neps. Mr. Miley suggested speeding up the card flats, even though more strips are produced, as a remedy for neps. Another man suggested a top flat setting of 7/1000, which some present seemed to feel was hardly achievable except possibly with new clothing and a good, solid floor.

This practically concluded the discussion. After the election of officers, the delegates were guests of the textile school at the annual style show held at the school. In this some 78 young ladies, students of colleges in North Carolina, participated, modeling cotton and rayon dresses, coats and suits which they themselves had designed and made from material designed and woven in the textile school at Raleigh.

ANNUAL STYLE SHOW AT N. C. TEXTILE SCHOOL

Above, most of the 78 young ladies participating in the style show at Raleigh, representing eight North Carolina colleges.

Below, the grand prize winner, Miss Mary Alice Treadwell, Myrtle Beach, S. C. (fifth from left in lower picture) and the winners of first prizes from each school represented.

DELEGATES to the Eastern Carolina Division meeting in Raleigh, N. C., attended also the annual style show and students' textile exposition, held by the textile department of N. C. State College on April 27th, under the direction of Dean Thomas Nelson of the textile department.

The textile school was operated as a mill unit, with complete personnel, and the visitors inspected the equipment and products. In the afternoon the 6th annual style show was conducted, with 78 college girls from eight North Carolina colleges participating. The girls wore dresses and other garments made by them from materials designed and woven and finished by students in the state textile school.

An overflow crowd attended the show, which indicated the variety and versatility of the fabrics being made by the textile students. This annual affair at Raleigh has come to receive wide attention and is a splendid means of acquainting the public with the work of the school and the style and utility of cotton fabrics.

The Weaving, Dyeing and Finishing of RIBBONS

By Noel D. White

Part Two

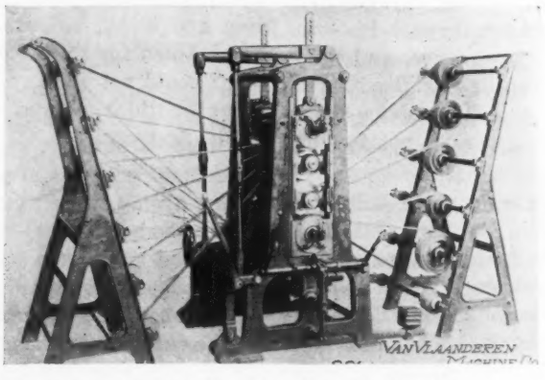
THIS section follows the first installment, which was published in the April issue and which covered weaving and part of the dyeing discussion. Here Mr. White continues his description of dyeing methods for ribbons, and also gives a discussion of the finishing processes involved in this work . . .

Black Dyeing.

RIBBONS are dyed into black by several methods. The nature of the material to be dyed, the uses the ribbon is intended for, and to a great extent the preference of the dyer, determine the choice.

Light weight all-silk ribbons are usually dyed with an acid black in one bath. A good silk acid black is selected and generally with the addition of a small quantity of Chinoline, Azo Yellow, or Silk Orange to tone it up to a deeper jet black in a Glauber salt bath. The dyeing is started with 20 per cent salt at 140 degrees F., for 15 or 20 minutes, then the bath is heated to 175 degrees F. for another 15 minutes, and then boiled. One to two per cent sulphuric acid, well diluted with water is then added to clear up the bath at the end of the operation, and the lot washed and made ready to finish it.

For silk and cotton or rayon in the ribbon, one of the developed blacks may be used, or a direct black aftertreated with formaldehyde. For developed black the ribbons are worked for one hour at the boil in a bath containing from 6 per cent to 8 per cent dyestuffs, 30 per cent Glauber salt, and 2 per cent to 3 per cent acetic acid. The goods are entered in the dyebath at 150 degrees and slowly raised to the boil. After 20 minutes boiling the salt is entered and the steam cut off for 15 minutes to cool the bath. At this time the acetic acid is added, then boil for 15 minutes longer, after which the lot is washed in cold water. The next step is a diazotizing bath containing 3 per cent sodium nitrite and 5 per cent sulphuric acid in cold water for half an hour. The goods are then washed thoroughly, and immediately entered in the developing bath. This is prepared according to the shade wanted. For a blue black: 2 per cent beta naphtol dissolved by boiling with one-half the amount of dry caustic soda. For a deep jet black 1 per cent metatoluylene or metaphenilene diamine boiled with the same amount of soda ash. If a shade is desired between a blue and a jet black the two developers mentioned may be mixed in suitable proportion. Considering that diamine developers are much stronger than the beta naphtol it is obvious that if mixed in a fifty-fifty proportion the beta naphtol would be completely overcome. The safe proportion would be one part diamine and four parts beta naphtol. A considerable change in the shade of the black is obtained by using one to eight. The operation of diazotizing and developing should be done in a room made dark by covering the windows, direct light falling on the goods during these operations will destroy the color and an uneven dyeing will be the result.



Illustrations, Courtesy Van Vlaanderen Machine Co.

Extra heavy ribbon calender with 6-ribbon let-off and take-up stands . . . . . .

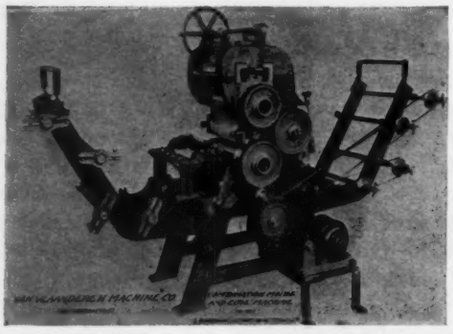
Direct black will also give good results when aftertreated after the dyeing. The dyeing is done the same as for the developed black with a suitable direct black. After dyeing the washed goods are treated for half an hour in a bath at 150 degrees F. containing 3 per cent formaldehyde, the same amount of acetic acid and, if extra fastness is required, 2 per cent of bichromate of potash may be added. Then the ribbons are washed, soaped, and finished with a small amount of acetic or formic acid.

For the better grade of silk ribbons, black is obtained with the old timer, Logwood, which is still used to some extent. The ribbons are degummed and washed free of soap and impregnated in a weak bath of basic sulphate of iron (nitrate of iron) for one hour, and washed. Another bath is prepared with 5 per cent to 6 per cent of fustic extract, and about the same amount of logwood extract, the goods are entered at 150 degrees F. and worked in this bath half an hour raising the temperature to the boil. An addition of 2 per cent sulphate of iron (copperas) is then added, and after another half hour the goods are washed. The final bath is made up with 18 per cent to 20 per cent olive soap, and 10 per cent to 12 per cent logwood extract, and the dyeing completed in this bath starting at 140 de-

grees F., gradually heating it to no more than 200 degrees F.

Another way of dyeing logwood black that will give a bluer shade if desired is to use about 2 per cent of fustic and 6 per cent logwood in the first bath, sadden the color after this bath in a lukewarm bath of acetate of iron (pyrolignite of iron) standing at about 2.4 degrees Baume (3½ degrees Twaddle) for one hour, and after washing proceed in the logwood and soap bath as above. The depth of black desired is obtained by increasing or decreasing the weight of fustic and logwood. The ribbons are then washed and brightened with a small amount of acetic acid.

Silk and cotton black on ribbon is also done in some mills with aniline black by the oxidizing process. For this process on ribbons, like for any other fabric, the apparatus consists of an impregnation basin and the oxidizing chamber. The ribbons are passed from the aniline bath to the oxidizing chamber and removed to the regular dyeing machine, or made to proceed to the successive operations continually until the dyed ribbons emerge ready to be finished.



Combination moire and cire machine with 4-ribbon let-off and take-up . .

The aniline black bath is prepared with 40 pounds aniline salt, 30 pounds chlorate of sodium, 20 pounds prussiate of potash, and 2 pounds dextrine for 40 gallons of water. There are many variations of this formula. Some dyers use aniline oil instead of the salt, or a mixture of the two. Others add a solution of sulphate of copper (blue stone) and a salt of ammonium. Still others use glue or glucose instead of dextrine to act as a buffer to protect the silk from the destructive influence of the strong chemicals used in the aniline bath.

Every dyer seems to have a different formula for his aniline black bath, guided perhaps through his own experience, and the apparatus, convenience, and kind of work. Anyone trying to dye aniline oxidized black must do so with great caution, or follow advice from those experienced, for this kind of work is not for the uninitiated.

The strength of the bath made up with the above formula must be reduced by adding water to stand at about 12 degrees Twaddle. The goods are passed in it and squeezed between two rubber covered rollers, then entered in the hot chamber and oxidized at a temperature not over 135 degrees F. When the ribbons emerge from this chamber they should be of a dark greenish color; from this oxidization chamber the goods are passed in a warm bath containing 2½ per cent to 3 per cent of bichromate of potash in which the oxidization is completed.

Washed and soaped at about 150 degrees F. In this soap the black may be improved further by adding logwood extract to the amount necessary to obtain the black desired. Usually not more than 5 per cent logwood is necessary.

Ribbons are finished according to requirements, kind of weave, material, and style. These are obtained by the finisher in many ways, no two finishers arriving at results exactly in the same manner.

Finishing Ribbons.

In common with all textile workers, the ribbon finishers have pet theories about their work, and each one knows one or more formulas to prepare his finishing paste that cannot be beat. He guards them jealously, and so long as he gives satisfaction with his work he can bluff his way along. He has to work with machines that are not always up-to-date, but when he has mastered the manipulation of them he produces results as long as he stays on the job, and he can crow about the excellence of his pastes and his finishing in general.

The writer while in charge of the dyeing for a ribbon mill worked with a finisher who produced excellent work for a number of years. This man used to prepare his solution every night by taking a few sheets of carpenter glue and a few shavings from a bar of olive soap, and soaking the whole together overnight in a tub of warm water. In the morning he boiled that up for a few minutes to thoroughly dissolve the mass, and used it for his finish on all his work. This man did his work so easily that every one thought there was not much to his job. But, one day he quit, for reasons of his own. Then it was learned what its worth really was. Several men came and went before one was found competent enough to take care of the job; this one set up an imposing laboratory to prepare his finishing solutions, for he needed one for every kind of ribbon, before he started operations. He also had several ingredients that he brought along with him, and kept under lock and key, thta he claimed were preparations of his own invention and would be patented as soon as patents could be obtained for them. He kept the job for some time, but I could not see any material improvement in anything he did compared with the simple working ways of the first man.

All silk ribbons are finished without being dried. After dyeing they are hydro-extracted and put on short wooden beams, winding the ribbons flat, face down and as tight as possible on the beams to make a roll about a foot in diameter or more in the case of wide ribbon. The beams are put on a rack in the back of the machine, as many as the width of the drying drum can accommodate, and the ribbons are led through the finish to a large drying can, or several smaller ones, on which they are dried, and onto a receiving beam where the finished ribbons are again wound.

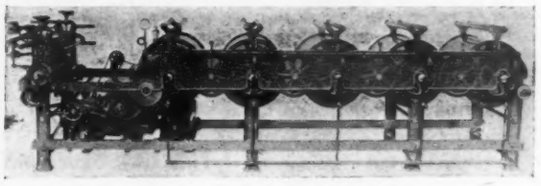
The finishing solution is poured into a trough which has an atomizer on each end. These blow the solution in a fine misty spray in which the ribbons are made to travel on the way to the hot drum, or drums, and onto the beams on the other end of the machine. The speed ribbons are made to travel on this machine

and the consistency of the finishing solution are the factors involved in the quality of the finished product. Experience is the only guide, and the preparation of a good working solution is a matter of judgment on the part of the finisher.

Finishing That Nearly Cost the Dyer His Job.

Preparing the rolls for the finisher is a simple operation. Also, pulling the ribbons through the finish from one beam to the other does not seem to be a very exacting process, yet if both operations are slighted in the least the results may be costly to the manufacturer.

As we mentioned before, each ribbon is cut from the loom at 50 yards. Each piece is sewn to another, and a piece of stiff gauze is used between the two ends to keep the width of the ribbon open and straight until the roll is complete. At each end on the roll is sewn a strip of cloth as the leader to guide the ribbons from each roll to the other end of the machine. If these leaders are not sewn on in a straight line to the filling, or put on carelessly, not sewn on full width, or crooked at being pulled through the mist and dampened, it is liable to contract and the finished ribbon be narrower than it should. Price of ribbons being fixed according to width, narrower ribbons are subject to discounts, and the manufacturer has no recourse but must stand the loss.



5-cylinder quetsch finishing machine with motor and variable speed arrangement . .

As each roll of ribbon travels from one beam to the other independently the tension should be the same for every one. The right tension must be correctly gauged, or here also a narrowing is liable to occur. As the finishers are not supposed to be responsible for loss of width of the finished ribbons, and the weavers are sure that their ribbons are woven the exact number of picks, the dyer is usually blamed for the damage.

As a matter of fact the writer nearly lost his job in a mill in a Pennsylvania town once on account of a good finisher quitting, and the man who succeeded him found that he could not finish our ribbons the correct width. He did not like to live in this town, and in some way he persuaded the manager that it was advisable and profitable to have the goods shipped in the grey to Paterson, New Jersey, to a commission dyer, and from there to the finishing plant he would start in the same city. His argument was that in our dyehouse the goods shrank in width, and the ribbons finished narrower in consequence.

Accordingly they moved the finishing machines, which were set up in the new place. The dyehouse shut down temporarily, and the ribbons shipped in the grey to a friend of the finisher who was supposed to be the best ribbon dyer in that city.

When they started finishing the ribbons showed the very same defects they had when dyed and finished in the Pennsylvania town. At this time an expert from a finishing machine concern was called in who went over every phase, and his investigation revealed that the machines they had for finishing were antiquated, all out of gear, badly set up, and he wondered how any man could ever have finished any ribbons at all with machines like that. His advice was to scrap those machines and put in a modern improved finishing machine that would do the work of all they had combined. Of course they did not do that, but they went to work to fix and re-set the old ones.

Then they found out that the trouble was not caused in the dyehouse and also that the commission dyer was not doing any better work, so they re-opened the dyehouse in Pennsylvania where I was still waiting.

Finishing Mixed Fiber Ribbons.

Cotton-filled and cotton-back ribbons are dried after the dyeing, and then put on beams for finishing. From then on the procedure is much the same as for all silk ribbons.

With rayon in the ribbon, the most common defects are creases that are found after dyeing and are almost impossible to remove. These are caused by the ribbons being crushed in the course of processing, either by leaving them piled up in the wet condition, or in the whizzing in a hydro-extractor. Ribbons dyed on the star machine are never subject to creases except when they are taken off the star to be whizzed. If proper care is taken to see that the bundle when taken off the reel is kept flat and smooth, there should be no creases of any kind showing. None but the very narrow ribbon should be dyed in skein form, and this applies more specifically for rayon ribbons.

In finishing cotton and rayon, very little finishing material is necessary as these fibers themselves are of sufficient stiffness to impart the necessary fullness without any material addition.

In some cases, a corrugated roller or two are placed after the drying cans and made to revolve under the ribbon as it travels to the collecting beam to break the stiffness somewhat, and give the ribbon a finish much softer and desirable.

Some ribbons like gros-grains and taffetas are finished with a wavy surface effect called "cire," moire," or "watering finish," and it is obtained by subjecting the ribbons to great pressure under specially constructed rollers for the effect desired. Goods for this purpose have to be prepared in the dye house by giving them a treatment usually with a sulphonated oil to make them soft (devoid of scroop) and prepared the surfaces for the moire finishing operation. (See illustration of some up-to-date ribbon finishing machines).

Ribbonzine.

Some years ago while the writer was in charge of dyeing for a ribbon mill, several samples of material were given to him to examine and make a report of what was their composition. They were of a fabric like straw, ribbon like in shape, or I should say more

like braided fiber, of different widths, very strong when pulled in length, but all of them could be pulled apart and be easily shredded when stretched edgewise. They were neither braided nor woven. The several strands were crashed or flattened, embossed with a slight corrugation, and pasted together. They were to be used for millinery work, and the cutting-up trade for garment decorations.

Here was a new kind of fabric that could be manufactured without the use of looms, braiding or knitting machines. Some of it was so wide that with three widths sewn lengthwise it could be shaped into a lady's bonnet, rim and crown, and look very smart and durable until it got caught in the rain, in which case disaster would surely follow.

What attracted our attention, and the thing we were most interested in, was a narrow specimen that looked like some of our narrowest ribbon, and a very dangerous competitor that threatened to revolutionize our narrow ribbon trade. To this one we concentrated our attention.

It was made of silk threads, colored a bright red, about a quarter of an inch wide and very strong. The fine corrugations made it appear like a gros-grain weave, but each thread was so delicately flattened and pasted to its neighbor with such a cohesion to make it appear very much like its more ambitious woven prototype.

After much pain, many trials, waste, and expense, we finally succeeded in duplicating this ribbon which was called "ribbonzine," but it failed to completely displace the woven one for wearing apparel. It is used for wrapping small articles, candy and chocolate confectionery boxes, and many other commodities, and it has an extensive market especially during the holiday marketing.

The silk entering the ribbonzine is a single or two thread organzine. It is degummed, and dyed the shade wanted, which is mostly red, and bright colors, then dried and wound on large spools. The spools are placed on a rack in front of the crushing and sizing apparatus. The threads from each spool are gathered and placed parallel to one another, as many of them as necessary for the width required. They are run through a narrow slot into the glueing solution, squeezed between two rubber covered cylinders, and then through two hot slightly corrugated metal rollers where the threads are flattened, embossed, and dried into the finished article.

When the spooled silk is on the rack and the several threads gathered to make the required width, care must be taken to have each thread run parallel and avoid having any crossing one another. Much in the same way that warps are made, in order to keep the threads in line a fine metal comb should be placed in front of the sizing trough before they are soaked in the glueing solution, and on to the drying cylinder. As many strands of ribbonzine can be made at one run as can be accommodated on the cylinders, and once the speed necessary to thoroughly dry it is obtained the machine can be run as long as the silk on the spools last.

The sizing is prepared with tragacanth gum and arabic gum dissolved separately, and mixed when ready to use with a small amount of sulphonated oil. The proper consistency of the solution can be obtained by diluting with warm water while stirring it thoroughly. It must be kept warm at all times during the run to keep the density down to working condition. A small copper coil for steam placed at the bottom of the sizing trough will serve the purpose.

Rayon Throwing

Contributed by Technical Staff, Jacques Wolf & Co.

In an effort to overcome the misnomer "artificial silk", there was adopted a few years ago the word "rayon" the definition of which is: The generic name of filaments made from various solutions of modified cellulose by pressing or drawing through an orifice and solidifying it in the form of a filament or filaments by means of a precipitating medium.

Rayon differs greatly from silk in both chemical and physical make-up and until recently luster was the only mutual characteristic. Chemical research has given it now all the characteristics of silk, except the gum or sericin coating.

This lack of a gum coating eliminates the troublesome and expensive degumming process previous to dyeing but its absence in throwing crepe twist is rather a disadvantage; since the rayon must be coated uniformly with a suitable friction-resisting surface which will not only withstand the shock of air friction at 8,000 to 10,000 r.p.m. spindle speed and flyer friction, but, at the same time, will give the yarn pliability, elasticity, and softness.

Oils, fats, and waxes in a water soluble state have been used with more or less success. Soap and alkalies should be avoided lest they destroy the chemical structure of the rayon and revert it to dull, lifeless cellulose. In applying soluble fats and waxes the temperature of the soaking bath must be slightly above melting point of those products so that they are fixed upon the rayon in a liquid state. When using sulphonated, emulsifiable oils, high temperatures are only necessary in the soaking of dull luster and acetate yarns to get the deeper penetration.

Because of low temperature required with sulphonated oil baths, the latter have found greater use than the soluble fats and waxes, since there is bound to be a disruption of filaments when skeined rayon is plunged into a hot bath which destroys the close filament structure so ingeniously put in at the rayon plant when the yarn is first drawn through minute spinneret dies.

To facilitate the soaking of rayon preparatory to throwing into crepe there have been developed some products which lubricate, penetrate, and soften. They may be used as a standing bath, the rayon soaked for one half to one hour, removed from the tub, hydro-extracted and extracted liquor reclaimed, built up with a small amount of new original liquor for use in soaking cycle again.

After the yarn has been soaked and extracted, it

(Continued on page 41.)

Pinehurst Meeting Featured by Timely Discussion and Valuable Contacts

THE meetings of the American Association provide markers in the progress of the southern textile industry—giving information on constructive accomplishment, and pointing the way to continued achievement for the future. The meeting at Pinehurst was enjoyed by a record crowd, and was featured by valuable addresses. T. M. Marchant was named president, succeeding B. B. Gossett . . . . . .

By the character of the program, the splendid attendance and the contacts engendered, the 37th annual convention of the American Cotton Manufacturers Association, held in Pinehurst, North Carolina, at the Carolina Hotel, on Friday and Saturday, April 28 and 29, marked a milestone of progress in the affairs of the organization and in the southern textile industry. The formal and informal reports of activity during the preceding year rang up another record of achievement and accomplishment, and the inspiration of and plans begun at the convention presage another period of progress and advancement in constructive endeavor.

Ideal weather, an attractive program, and the timeliness of the occasion, coupled with a universal interest prevailing in the current and future affairs of the industry, brought to Pinehurst one of the most representative crowds in Association history, and the program executed by President B. B. Gossett and Secretary W. M. McLaurine justified the overflow attendance and merited the intense interest manifested by the delegates.

The New Officers.

Thomas M. Marchant, president and treasurer of the Victor Monaghan Company, Greenville, S. C., was elected president of the Association, succeeding B. B. Gossett, president, Chadwick-Hoskins Company, and vice-president, Gossett Mills, Inc. (See story, page 17). William D. Anderson, president, Bibb Manufacturing Company, Macon, Ga., was made first vice president, and Thomas H. Webb, president, Locke Cotton Mills Co., Concord, N. C., was made second vice-president. To succeed Mr. Anderson and Mr. Webb for unexpired terms on the board of governors, Fuller E. Callaway, treasurer, Callaway Mills, LaGrange, Ga., and Kemp P. Lewis, president, Erwin Cotton Mills Co., Durham, N. C., were named. Five members were placed on the board for full terms: Robert R. West, president, Riverside & Dan River Cotton Mills, Danville, Va.; R. E. Henry, president, Dunean Mills, Greenville, S. C., and Aragon-Baldwin Mills, Chester, S. C.; Herman Cone, treasurer, Proximity Mfg. Co., Greensboro, N. C.; J. H. Cheatham, president, Georgia-Kincaid Mills, Griffin, Ga.; and S. M. Beattie, president, Piedmont Mfg. Co., Piedmont, S. C. W. M. McLaurine was re-elected secretary-treasurer.

Following a meeting of the board of governors on Thursday evening, April 27, the first session of the convention was called to order on Friday morning by President Gossett, who, after announcements had been made, presented the annual address of the president. Mr. Gossett presented a thoughtful review of present conditions in the industry, and concluded with sound words of advice as to the industry's necessary conduct of its affairs. He said in part:

"We started the year with a program consisting of three major parts:

"First, an intensive follow-up of the campaign inaugurated in Mr. Callaway's administration to find new and increased uses for cotton. This campaign included the all important matter of securing an adequate tariff on jute and its products. Most of you are familiar with the efforts we have made to bring this campaign to a successful conclusion. Unfortunately, our goal is not yet in sight, but we are encouraged to believe that our efforts will ultimately be rewarded.

Gossett Discusses Conditions.

"In this connection, we have also cooperated with the Cotton-Textile Institute in a campaign to increase the present uses of cotton and help develop new markets. Not for many years has the American public been so interested in value received for money spent. Not within the past century have there been such remarkable values in all kinds of cotton goods. Never before have cotton goods been so attractively styled and their place in fashion reached a position of such importance. Quite obviously this enviable position was not a spontaneous happening. It is the result of well-planned cooperative effort. Mills and converters have played their parts. Versatility of fabrics and stepped-up designing, styling and finishing represent the contribution of the processors to the popularity of cottons.

"It is encouraging to realize that the total spindles now in place are approximately thirty-one millions, of which only about twenty-four millions are active. This represents a decline of about seven million spindles in place since 1925, or, in other words, despite an increase in population of something like 30 per cent since 1912, the spindles in place are about the same as at that time. Just what this reduction in machinery will ultimately mean is too obvious to require any comment by me. It is certainly safe to assume that when anything like normal conditions are restored, it will take the product of all mills running to capacity to supply the demand. But this time is not yet in sight, which makes it all the more important for the industry to adopt and maintain a policy of balancing production to present and prospective demand.

"The second major part of our program had to do with the matter of improving our generally antiquat-

ed and unsound methods of merchandising and distribution and the third part to the question of inaugurating an intensive campaign looking to the lowering of the cost of government in all its branches.

"As to the question of reducing governmental costs, it seems unnecessary in the light of recent developments to comment on this at length. Everyone is entirely familiar with what has been accomplished by the new administration in Washington in reducing expenses and, happily, this splendid example is being followed in many states. Indeed, it has recently been estimated by a well-known tax authority that the total taxes in America for the year 1933 will be reduced by at least two billion dollars from the recent peak. This is a step in the right direction and is bound to afford relief to the tax payers in this country to such an extent that business in general will benefit.

"But notwithstanding our many advantages, the industry as at present conducted is not prosperous. One of our great textile leaders once said: No industry can long survive without reasonable and legitimate profits. It is the life blood that must pulsate freely through the veins if strength is to be maintained and the demands of progress met.

"According to the latest statistics, our industry has been operating at about 95 per cent of a normal day run. This means the South is operating considerably more than 100 per cent of a normal day run. With the possible exception of food and beer, ours is the only industry in America so far as I know that is operating on such a scale. The steel industry, for example, is operating at only about 20 per cent of normal. Practically all other industries are operating on greatly curtailed schedules. In my opinion there is not the slightest justification at this time for the cotton textile industry operating 95 per cent of a normal day run.

B. B. Gossett, retiring president.

"It has been apparent that some mill men at times fall into the error of doubting the value of statistics. We hear the inquiry, 'What good is accomplished by all these tabulations after you have gone to the work of preparing them?' The answer is that much depends on the use you make of them. Abraham Lincoln once said, 'If we could first know where we are and whither we are going, we could better judge what to do and how to do it.' Statistics serve exactly that kind of a guidepost. Without them, we are absolutely in the dark and have no information beyond what is conveyed to us by grape-vine rumor. Information received from these sources is seldom dependable. A number of years ago, before we had carded yarn statistics, I recall the frequent market rumors of tremendous stocks of carded yarn that were being piled up by the mills. There was no way of refuting these rumors because the facts were unknown. No such rumors, however, have been current during the last several years when we have had statistics. Prices, while unsatisfactory, have nevertheless been free of attack from that angle.

"Some people have become discouraged because the statistics have not helped the mills to make a profit. They have pointed to the steadily dwindling manufacturing margins as an example of the futility of statistical reports. This, it seems to me, is a short-sighted viewpoint. Statistics have hardly more than an academic interest if they are not put to use and accepted as a basis for aggressive attack upon merchandising problems. If they have not brought helpful results, the inference is plain that we have not given up enough of our highly individualistic attitude and that we must, therefore, set our objectives still further in advance of any accomplishment heretofore. The tremendous recession in earnings suffered by the steel, automobile, oil and other highly organized industries clearly indicates that this is an abnormal period in our economic life and therefore no time for discouragement over the lack of results from cooperative efforts. It is easy to imagine that conditions in our industry would have been much worse during the depression but for the reliable statistical data that we have received in the many different groups.

"It must be evident to all that there is something about our present system that is fundamentally wrong—something that is dissipating our energies and bleeding our plants to death. Some seem to feel that because we have the potential capacity for production in excess of normal consumption we should turn out every pound that we can produce, regardless of the consequences. If this is the case, it seems to me that we stand indicted before the world for a type of incompetence that will deserve its fate.

"But there are some who may say that we are not over-producing. They will point to the figures for the year 1932 which seemingly reveal a balanced production in relation to demand and yet they must admit that in spite of this the price movement of staple fabrics during the year was not satisfactory and constantly sinking lower. The truth is that considering the year as a whole, production was fairly well balanced to demand. Unfortunately, however, this does not take into account seasonal fluctuations. It does not take into account the imperative need of balancing potential production to demand, not mentioning the disposition of many mills to press continuously for an outlet for a tremendous excess yardage of merchandise, especially in quiet market periods when the trade is in no humor to buy. After all, it is this unbaalnced adjustment between demand and volume of goods offered that is largely responsible for the tremendous shrinkage in manufacturing margins.

"A careful study of the month to month reports clearly indicates that there are wide seasonal swings in operating time over a twelve month period. For example, in 1930 the low point in mill operations during August was 35 per cent under the peak of January; in 1929 the difference between the summer dull period and the peak amounted to 15 per cent and in 1928 to 28 per cent. In 1932, July running time was 45 per cent less than the peak in October. This restricted demand in summer is of such regular occurrence that I am confident the mills are at last beginning to realize its significance and will hereafter manifest, I hope, a disposition to adjust their operations and sales accordingly.

"It is obvious that in shaping our policies for the future, we must give greater attention to the matter of merchandising and distribution, make allowances for seasonal swings and adjust our operations accordingly. We must aim at profitable selling and place much less emphasis on the selling of volume, bearing in mind that a stabilized market offers the best incentive to volume demand. The violence of seasonal changes must be kept constantly in mind and production adjustments should precede rather than follow the customary slump in demand.

"This leads me to what I regard as the most

urgent topic I have ever been called upon to discuss in a public address. If my comment on it is brief, it is because it will be developed adequately by Mr. Anderson. I cannot over-emphasize the importance I attach to the subject. The very existence of our companies as individual enterprises depends upon the courage and the speed with which we approach it.

No governmental agency forces us to over-produce. On the other hand, unless all signs fail, it is inevitable that the government will soon adopt such measures as may be necessary to force us to put our house in order unless we voluntarily do so. Among other things, this will undoubtedly mean the adoption of uniform and shorter hours throughout the entire industry, the allocation of business to insure the proper balance between production and demand and perhaps even a minimum wage scale as well as many other practices which may prove dangerous and far-reaching.

"Gentlemen, the handwriting is on the wall. The hour has struck. Therefore, in the existing crisis, the textile industry more than ever before faces the positive need of sustained cooperation. Our problems although great and numerous, can be solved if we once resolve upon a determined, courageous and intelligent attack.

"Forget everything else I have said today, if you will, but I beg of you, for your own salvation, to ponder long on the thought I have just expressed. It involves the most critical situation which has ever confronted you and me as textile manufacturers, and transcends all other matters in its demand for broad-gauged thinking and action."

Address of Professor Dewey.

The next feature was an exceptionally fundamental and interesting address on the subject of sound banking, by Professor A. S. Dewing, professor of finance, Harvard University. Professor Dewing first pointed out the interdependence of the various parts of this country, as well as the close connection of nations in an international interdependence, and declared that banking and transportation, as two fundamental branches of commerce, touch vitally every phase of life. He criticized the banking methods of this country, declaring that our system of banking is a hit-and-miss affair, and that "we have too many so-called bankers." He traced the development of banking in Canada, which, he pointed out, has been made, from the beginning, along sound lines, and offered four simple rules which he declared are essential to adequate banking reform. First, he said, banking loans must synchronize in time with deposits; second, all loans of commercial banks should be self-liquidating; third, banks should not buy bonds; and fourth, a commercial banker should attend to his own business, divorcing himself from affiliates whose activities take him outside the sphere of actual banking. Following Professor Dewing's address, several questions were asked from the floor, to which he replied informally.

The concluding feature of the Friday morning session was an address by W. D. Anderson, president of the Bibb Manufacturing Company, Macon, Ga. Mr. Anderson was officially reporting for the legislative committee of the Association, which has been active in Washington during recent months, of which he is vice chairman, with W. J. Vereen of Moultrie, Ga., as chairman. In beginning, Mr. Anderson paid a glowing tribute to the unselfish and effective work of Mr. Vereen in this capacity, declaring that, "the American Cotton Manufacturers Association, and indeed the textile industry of this country, is under a debt of obligation to W. J. Vereen which we shall probably not live to repay in full, except in the esteem in which he will be held by those who are familiar with the facts." Informally, Mr. Anderson reported "off the record" for the members, a number of amusing and interesting incidents in connection with the committee's activities in Washington.

Address of W. D. Anderson.

Declaring that the committee's work in Washington, in a period when "we have probably, as an industry, had more at stake than at any other time within the memory of those who hear my voice", had been well worth while, and that as a result, "the textile industry is better known today in Washington, is more respected by members of the Congress and heads of important departments there than at any other time in its history", Mr. Anderson continued with an appeal to textile manufacturers to aggressively challenge criticism of the industry and protect it from hurt. (In this connection the timely article on page 21 of this issue, by Michael Welsh, will be of interest.) Mr. Anderson said:

W. D. Anderson, elected first vice-president.

"I am convinced that the textile industry is under a handicap at this time, and has been for many years, because the public does not understand our problems and has been constantly misinformed as to our program and as to the facts surrounding our business. In the main, we have been too proud to answer our critics. During the past 25 years we have been criticised severely. Many charges have been made against us which the facts would not warrant. We have not taken the time and trouble to answer these critics or to disprove the false charges that have been made.

"It is little wonder, therefore, that, in the minds of the public ours is considered to be a backward industry. Indeed, I sometimes fear that some of us who are in it have been to a degree overwhelmed by criticism and have come to be a bit ashamed of the business in which we are engaged. Certainly, we have permitted ourselves to be put on the defensive.

"For this reason, if for no other, I believe it would be well for us to change our tactics and fearlessly undertake to defend our industry and to seek to protect it from hurt, if not from destruction. I believe that when any national legislation is proposed which will adversely affect our business, we should go in person to Washington and lay our case before the Congressional committees who are consid-

ering such legislation. My experience and observation is that the average Congressman and Senator wants to do the right thing, and that most of the errors they make in legislation are due to lack of proper information concerning the effect of it upon those at interest.

"I have no hesitation in saying that the textile industry has no occasion to be ashamed of its performance during the terrible depression from which we are just now emerging. I say this with the full realization that we are far from perfect and that there are many things we can do, and ought to do, that would improve our industry and add dignity to it. We will all admit that we have made mistakes, but the record will show that those of us who have invested our time and money in the business of manufacturing textiles have been the greatest sufferers from these mistakes. If it be true that we have erred in the conduct of our business, it is also true that we have, in so doing, harmed ourselves more than we have harmed any one else.

Not a Low Wage Industry When Proper Comparisons Are Made.

"We have been charged in season and out of season with being a low-wage industry. We have heard this charge so often that we have come to accept not only the fact, but the opprobrium, which those who make the charge have intended to heap upon us.

"Those who criticise the wage scale of the textile industry make the mistake of comparing our wages with the wages of skilled workers in other crafts. In the minds of the uninformed public, the wages in cotton mills are compared with the wages of machinists, carpenters, plumbers, brickmasons, plasterers, workers in steel, workers in plants where technical machinery is built, and all of those skilled craftsmen where long apprenticeship is required to become a master workman, and where, in many cases, a technical education and long training is demanded. The fact is overlooked that workers in a cotton mill are largely tenders of machines and that little skill is required. Those of us in the business know that we can take a young man or a young woman from the cotton field and make a satisfactory textile worker in six to eight weeks.

"I assert that if the wages paid in cotton mills are compared with the wages paid in other lines of work in the same community, where the same skilled preparation and experience is required, that we will not suffer by the comparison. Our wages should be compared with the wages on farms, in department stores, chain stores, grocery stores, telephone exchanges, and other lines of work of a similar character in the community.

"No attack made on the textile industry, from any source, is complete unless it contains the charge that we are the greatest offenders in the employment of children. All attacks made on us by agitators and uplifters use the charge of child labor as a window-dressing. We have heard this so often and so long that the public accepts it as true, since we ourselves have taken little trouble to deny it. I believe that this one charge or criticism has done more to arouse prejudice against the textile industry than all else combined. Very many people see red when the textile industry is mentioned, on account of the fact that they see pictures in their mind of tender children being mangled in the clanking machinery of the cotton mill.

"While, as intimated, no speech on the subject of child labor in industry, and no article dealing with the question is complete without reference to child labor, the fact is that there is, substantially speaking, no such thing as a child labor problem in industry in America. The greatest child labor problem we have in America is on the farm, and if any one desires to tackle the buzz-saw involved in legislating on that proposition, or in seriously discussing it, they are welcome to the task.

Where the "Child Labor" Really Is.

"According to the Census of 1920, there were 12,502,582 children between the ages of 10 and 15 years, inclusive, in the United States. Of this number, there was a total of 1,060,858 gainfully employed in all lines of work. Of this number, 647,309 were working on the farms. 413,549 were engaged in all non-agricultural pursuits. Of this number, only 21,875 were employed in the cotton mills of the United States. Of course, any one would assume that practically all of this 21,875 were employed in the cotton mills of the South. However, a bulletin issued by the Federal Children's Bureau makes the following statement:

> 'When all occupations are taken into account, the proportion of children at work was much larger in the South than in any other section of the country; but when non-agricultural occupations alone are considered, the proportion was considerably larger for New England and for the Middle Atlantic States, and slightly larger for the East North Central States—Ohio, Indiana, Illinois, Michigan, Wisconsin—than for any of the three Southern geographic divisions'.

"Recent figures compiled from the 1930 Census show remarkable progress as to the employment of persons 10 to 15 years old, inclusive. The total number of children of this age in the United States in 1930 was 14,300,576. The total number gainfully employed in any way was only 667,118, or 4.7 per cent of the total, as compared with 1,060,858 in 1920, or 8.5 per cent of the total. The total number employed in the cotton mills of the United States in 1930 shows even greater progress, being only 10,631 as against 21,875 in 1920, a drop of 50 per cent.

"Very few people take the trouble to investigate the facts about such matters and go along accepting as true the statements made by irresponsible speakers and writers.

"I said a moment ago that the textile industry had no occasion to be ashamed of its performance during recent years.

"Our industry ranks first among all the industries in America in the average number of wage earners employed, and throughout this entire depression ours is the one industry that has stood up fairly well in the matter of employment. It is commonly stated that there are now from 10 to 12 million peo-

ple out of work in the United States. I assert that the textile industry has made but a very small contribution to this army of unemployed. I believe that there are fewer cotton mill workers out of employment today than is true of any other class of industrial workers in the United States.

"It may be true that, here and there in our industry, wages have been reduced too much, but I claim that the worst that any of us have done in this respect is a great deal better than what has been done in many other lines of business, which was to turn people out in the streets to join the bread-lines. I daresay that it would be difficult to find that very many cotton mill workers have been in the bread-lines anywhere or have been applicants for assistance at the welfare stations of various kinds that have been established over the country to take care of needy people. They may not have earned as much as they should have earned, or as much as the employers would have preferred to pay them, but I claim that, as a body of workers, they have earned an honest living and they have had a good roof over their heads and have not suffered for fuel, food or clothing. This is a great deal more than can be said for the employees of many other lines of business in this country."

At the conclusion of his remarks, Mr. Anderson declared it as his opinion that it would be well worth while for the textile industry to arrange for permanent representation of its interests in Washington.

Friday afternoon was given over to golf and other recreations, and to executive meetings of committees and industry groups. The banquet of the association was held on Friday evening, with President B. B. Gossett as toastmaster. Honor guests introduced included L. W. Robert, Jr., recently appointed assistant secretary of the treasury; and Curtiss B. Dall, son-in-law of President Franklin D. Roosevelt. Manus McCloskey, brigadier general, U. S. Army, Commanding Fort Bragg, N. C., and Judge John J. Parker, of Charlotte, were the banquet speakers.

The final session of the convention was the executive business meeting on Saturday morning. Following the report of the secretary, Mr. McLaurine, the report of the cotton committee was made by S. M. Beattie, chairman. Carl R. Harris, president of The Arkwrights, Inc., was asked by T. H. Webb, chairman of the American Association's Arkwright committee, to report for that body. Carl R. Cunningham, traffic manager, reported for the traffic committee; and Stuart W. Cramer for the Textile Foundation and National Industrial Conference Board committees, of which he is chairman. William J. Vereen spoke informally, and was paid a high tribute for his activities with his legislative committee; and Russell T. Fisher, secretary of the National Association of Cotton Manufacturers, was recognized and brought the southern organization greetings from his membership. The report of the resolutions committee was made by T. M. Marchant, chairman, and the resolutions adopted covered the subjects of grade standards, requesting no change in the white standards; urging diversification of work in the government penal institutions; and thanking W. J. Vereen and his legislative committee for their work. A special resolution of sympathy on the passing of Arthur H. Lowe, former president of both the American and the National Associations; and others on the passing of other members of the association during the year, were adopted. The retiring president's medal was presented to Mr. Gossett by Stuart W. Cramer, who called attention to the fact that as Cason Callaway had followed his father, Fuller E. Callaway, Sr., in the office of president of the Association; so had B. B. Gossett succeeded his father, James P. Gossett, in the same position.

Rayon Throwing

(Continued from page 36.)

should be dried, in a chamber having a circulating current of warm dry air, previous to winding from the skein, to bobbin. Carefully inspected winder bobbins which have no nicks or scissor scars and very smooth inside heads should be used. To insure overrun bobbins and the least number of knots, a bobbin should have only one skein wound upon it.

First-time or 5B spinning is the next operation and two to three turns per inch are put in, spindle speed 5,000 to 6,000 r.p.m. Second-time or high speed spinning is best carried out by running a regular doff. There has recently been developed a type of pyrex glass take-up bobbin on which the crepe twisted yarn can be steamed or water-set without the presence of rust and "baked in" grease spots which are practically unremovable.

After the crepe has been set, it should be allowed to remain on the bobbin to dry out or cool off previous to redrawing; otherwise if the yarn is redrawn while wet or damp the twist will be disturbed or stretched and a flat instead of a round thread will result, as well as "shiners".

"Shiners" is a term used to describe the flat lustrous parts of a yarn which "shine out with mirror-like brightness showing a marked luster above the conventional yarn". The causes are many and varied, namely:

1. Variation of filament size of raw stock; 2. variation in moisture of stock as received; 3, lack of proper soaking oils which did not penetrate properly; 4, wet or damp yarn in winding operation; 5, varying tension in spinning process; 6, wrong weight of traveler; 7, uneven setting twist; 8, redrawing wet or damp bobbins; 9, in redrawing, knots are often tied because of yarn breakage at supply package; before making knots a yard or two should be broken off and coated and care should be taken in making the knot so as not to take out any twist; and 10, no knots should be made in second time spinning but ends should be lapped and knots made on last packaging operation before shipping.

Before a lot of rayon is put to soak it might be well to make a regular inspection of the stock received by a winding test and seriplane examination such as are used for raw silk. The seriplane test may also prove to be an advantage in seeing exactly the kind of yarn which has been produced.

CURRENT TEXTILE TOPICS. . . .

Talk of the Month.

THROUGH a period of bewildering discussion of farm-relief measures, a 30-hour week for industry (or an "elastic" substitute), a general apprehension of broad inflationary tendencies and other complications such as the slow amelioration of the credit situation, textile manufacturers have been carrying on in the only way possible: accepting the business available for so long ahead as they could sell without fear of difficulties incident to enactment of new laws. The most favorable aspect that can be put upon the turmoil that has been experienced as a result of the spring crisis is that the temporary inconvenience may be suffered to advantage through the permanent good to follow. Of course the latter remains to be seen.

The General Situation in Textile Markets.

Mid April found the program toward settlement of the farm-relief legislation still uncertain, with some factors in the cotton-goods field predicting that it would be July or August before the Secretary of Agriculture could begin to put its provision regarding processed cotton into effect. Nevertheless, the possibilities of quicker action were sufficiently serious to keep sellers from accepting business more than a month ahead as a rule. The cautious spirit was intensified by the overhanging apprehension of legislation on industrial labor, but the early spring drouth in sales created prompt needs that led to sales once more above production just at the time when serious talk of mill curtailment was developing.

This quickening of sales was precipitated by the first passage of the Black 30-hour bill through the Senate and was accompanied by sharp advances on the fear of increased labor costs, buyers evidently sharing much apprehension as indicated by their willingness to pay more. Meantime, the low level of prices was productive of increased turn-over, as indicated by the persistent gains for this season over last in consumption of cotton beginning with last September and continuing through March with the one exception of February. However, with a reasonable amount of inflation, it is to be expected that distribution of finished cotton goods can be maintained on the resultant high level of prices.

Getting back to the predominating note of legislation, the events growing out of the crisis are significant of one great truth for the industry. The business man, or the industrialist, cannot operate too closely to his own business. The shoemaker should stick to his last, according to the old saw, but he must see beyond it and his business is becoming more and more bound up with the broad social fabric, including the political sphere. As stated by Southeastern Cottons, Inc., "if there has been in the past in the textile industry a feeling of indifference toward Washington and the legislative deliberations of Congress, it would seem that this has now been displaced with an interest as intense as that of the old-fashioned revival meeting".

It will be recalled that, in the propaganda of the Cotton Textile Institute for voluntary regulation of production by the mills of the nation, frequent stress was laid upon the inevitability of legislative action for control if that were not adopted by the industry itself. The inevitable issue has come to a head, and the first proposals were presumably much more drastic than necessary for cotton manufacture, judging from estimates of what would be sufficient regulation to bring production into adjustment with consumption. In view of the emergency character of the current measures—including such regulation as might be enforced by Secretary Wallace under his broad powers in the Agricultural bill—perhaps the point of most importance in the situation is the demonstration that the industry cannot continue to avoid the issue of proper regulation.

Along with other industries, cotton manufacture should acquaint itself thoroughly with the decision recently made by the Supreme Court in the Appalachian Coals, Inc., case and bring into its trade associations a new value. The long agitation against unreasonable restrictions upon collective practices under the Sherman Anti-Trust laws has its solution in this case. Restrictions which have become obstacles to the best interests of the country are removed. Liberal interpretations of the laws today evidently opens the way to action for relief from the ruinous methods under the old regulations regarding competition.

APART from the sluggishness which was created by the banking holiday, stopping the normal spring flow of retail trade and thereby upsetting demand for unfinished cloths and yarns, the cotton industry the first quarter of the year was well maintained at something above the production rate of 1932. Resumption of normal functions by the banks and gradual restoration of public confidence gave the second quarter also a good start, except for the complications incident to farm-relief and 30-hour-week legislative proposals. Such factors, moreover, were obstacles to business for deferred shipment rather than the immediate requirements. This was an important contrast with 1932, when the industry was headed for the stagnation which had a climax in June.

New England Mill Situation.

Recent figures on employment in Massachusetts stated that February brought a slight increase in the cotton mills, with a somewhat larger gain in the dyeing and finishing divisions. The records of the Associated Industries of Massachusetts on orders in Feb-

ruary, which naturally are for later delivery and therefore significant of later mill activity, gave textiles as a whole a percentage of 76, compared with 69.3 in January and 66.6 for February of last year—based upon 100 for the average month of 1926. Orders for textiles had a slump in January, but a sharp rebound in February, this tendency being the exception for other industries declined.

Among the recent introductions to the market, anti-crease fabrics of the Pacific Mills are one of the newest contributions. The Pacific was among the first to secure the rights in this country to the English process. Its new fabrics embrace both cotton and rayon lines. The first anti-crease offering was a cotton chiffon, quickly followed by a printed sheer rayon. Four groups of prints were offered in the new rayon fabric, ranging through multi-colored florals, simple geometrics and bold "eccentric" geometrics to "twin prints" which offer duplicate patterns in reversed colorings. This old New England company, by the way, has discontinued all cotton manufacturing in its Lawrence plant in favor of the South, the Massachusetts production being given to rayon and worsted goods.

The Textile Machinery & Supply Company of Fall River recently bought the Somersworth plant, of Somersworth, N. H., which was purchased six months previously by the Nashua Manufacturing Company of Nashua, N. H., and operations discontinued in large part. The production of Anchor Brand sheets has been taken over at Nashua. The plant was equipped with 125,000 spindles and 3,000 looms and, when operating in full, employed 1,900 operatives. The Fall River company has purchased and liquidated fourteen mills in New England during the past year and a half.

The passing of the old community era in New England cotton manufacturing is emphasized by the announced decision of the Berkshire Fine Spinning Associates, Inc., to dispose of dwellings and other properties pertaining to its manufacturing plants. Among such properties are a clubhouse and store building at the Anthony plant, in Anthony, R. I. The properties are only such holdings as not required for manufacturing.

During the past month or two, the New England states have been concerned in their own spheres with various legislative measures for regulation of industry, while watching developments at Washington aimed at national control. Attention has previously been called to the efforts of Governor Ely in Massachusetts to secure temporary liberalizing of restrictions in the State to allow of more equitable competition for mills with the rest of the country, but from which attempt no gain has been seen. The failure of adoption of a 48-hour law in New Hampshire was followed by a similar result from an attempt in Maine. An effort in New Hampshire toward a 50-hour law was considered doubtful of success.

Massachusetts efforts, after a conference called by Governor Ely of representatives of the textile industry and of organized labor with State Labor Commissioner Smith, turned toward united action for uniform legislation throughout the North and South as the solution of labor laws. A committee was appointed to take up the proposition with President Roosevelt and Secretary of Labor Perkins.

While uniformity of national labor laws naturally is desired by states which have taken an advanced position in restriction on operation of industry, New England sentiment hardly can be said to favor such drastic control as a 30-hour week, especially as it was figured that there were loopholes in the first proposed scheme. The best that could be said of the Black bill, perhaps, is that the objective aimed at is a desirable one. What the cotton industry needs, obviously, is some force for control of production, by restriction of labor and machinery activity. Some factors feel that a 40-hour week would bring the industry into balance.

Comparative Advantages of Jute and Cotton Bagging.

THE United States Department of Agriculture, Bureau of Agricultural Economics, has just issued a preliminary report of a study made by J. W. Wright, senior agricultural economist, and R. J. Cheatham, senior cotton technologist, division of cotton marketing, making a rather elaborate study of the values of jute and cotton as bale covering materials.

Without going into the details of the study, we recommend it to the industry and submit a summary of the findings:

Under the present system of selling cotton on the basis of gross weight, bagging made of cotton, because of its lighter weight, is handicapped in competition with jute bagging.

From the standpoint of physical suitability, bagging manufactured wholly or in major part from new jute butts possesses sufficient strength to withstand the rough handling to which cotton bales are subjected. There is no conclusive evidence as to whether or not wide-mesh jute bagging affords better protection to the contents of the bale against weather and other damage than the more closely woven types of bagging.

Physical disadvantages of jute bagging are its lack of durability, its excessive weight, and the losses in spinning caused by the presence of jute fibers in cotton that has been covered with this kind of bagging.

Bagging made of cotton possesses durability, is light in weight, and contributes to the neatness of cotton bales. Compression, shipping, and laboratory tests indicate that bagging of this kind is satisfactory if suitable fabrics are used. However, commercial experience with cotton bagging under all conditions of storage, handling, and shipment has been too limited to afford a proper basis for appraisal of its suitability as a covering for cotton bales under every condition.

Since under normal conditions cotton is a more expensive fiber than jute, it can compete as a bagging material for cotton bales only when the disadvantages in cost can be offset by the advantages of using a lighter fabric and by other tangible and intangible advantages which may accrue from its use.

The greater re-use value of cotton bagging, sav-

ings in freight costs that would result from the reduction in the weight of tare, and reduced losses in the form of cotton adhering to bagging, when taken in the aggregate, could be expected, under normal conditions, to offset approximately 75 per cent of the extra first cost of cotton bagging.

Other economic advantages that would accrue from the use of cotton bagging are the increased consumption of cotton for bagging and the possible ultimate savings in insurance costs that might result from a reduction in the fire hazard. These items, although not susceptible of quantitive measurement or estimate, are important from the standpoint of financial gains to the cotton industry.

It is not known to what extent the total benefits that would accrue to the cotton industry from the use of cotton bagging would be reflected back to the grower to compensate for the extra cost to him in the first instance.

Justice Takes a New Turn.

IN its decision of March 13, on Appalachian Coals, Inc., the Supreme Court of the United States lifted a District Court injunction for infringement of the Sherman Anti-Trust Act and ruled that it could not be considered against the public interest for an industry to stabilize itself provided there was no menace of monopoly and no attempt to raise prices unduly. Under the decision, the Department of Justice was given power to call a halt on the operation of Appalachian Coals, Inc., if its policy of selling the entire coal output of all operators in each region threatens to become injurious to consumers.

Obviously based on the law's intent and "in the public interest", this interpretation foreshadows the entry of American business into an era of more sensible competition where co-operation to survive, to provide much needed employment at adequate wages and to give the consumer a square deal, shall be considered within the law; apart as it should be from a monopoly which seeks to crush all competitors in order to gouge the public. While the court's decision in this case, according to Attorney General Cummings, does not create an open sesame to combination, since all such cases shall be decided on individual merits, yet it is significant advance in the interpretation of the law which in many respects has outgrown its usefulness in our present "economy of plenty". Likewise, it constitutes an indirect rebuke to legislative authority for failure to modernize the legal code of business to serve the best interests of the greatest number.

Whenever in the course of human events recurring evils have become too oppressive and dangerous to social wellbeing, some form of wise leadership has taken the helm and steered a safer course. That is what happened when Theodore Roosevelt scourged the competition-stifling monopolies with the anti-trust whip. The remedy of yesterday has become the scourge of today, but thanks to the wisdom of our Supreme legal authority, it appears to be on its way out.

National Cotton Week.

THE week of May 15-20 has been set aside for National Cotton Week. So successful have the past two annual Cotton Weeks been that already the success of this coming National Cotton Week can be interpreted by the responses that have been made, the advertising that has been displayed, and the purchases made by the great distributing agencies.

In practically every city, town and hamlet in the nation the leading stores will give evidence of its celebration. It has been estimated that there will be 250 miles of solid window space consumed in portraying the utility and style and economy of cottons.

The money expended in a national united effort to make the nation "cotton-conscious" has proven a wise investment. This year will perhaps eclipse the two preceding years because cottons are styled better, and are cheaper than they have been heretofore. In this Cotton Week, all forms of cotton products will be stressed, not only cotton suits, cotton dresses, but shirts, towels, sheets, pillow cases, bedspreads, tapestries, curtains; in fact the entire gamut of the great galaxy of products into which cotton can be spun or woven.

The governors of Alabama, Georgia and South Carolina have issued official proclamations, and similar action is anticipated by other governors.

WHAT THE SOUTHERN MILLS ARE DOING . .

BOBO Weaving Mill, Spartanburg, S. C., has been chartered by W. C. Bobo and others, with a capital stock of $25,000, to manufacture cotton, rayon, silk and acetate goods. As previously reported, the mill has 150 Draper looms, and occupies the building formerly used by the Yarns Corporation of America.

American Net & Twine Co., Blue Mountain, Ala., have installed a new boiler in the dye plant.

An addition, to be one-story and to cost approximately $100,000, is being erected by the Walker County Hosiery Mills, LaFayette, Ga.

Ten additional gangs of No. 30 winders have been purchased from Universal Winding Co., by the Hudson Silk Hosiery Co., Charlotte, N. C., for installation in the company's new silk throwing plant.

Caswell Mills, Inc., Kinston, N. C., have been chartered to operate the plant of the Caswell Cotton Mills, which has been closed for some time. J. W. Ferrell, M. D. Goodrich, and John G. Dawson are among the incorporators.

A number of new looms have been installed at the Lola Mfg. Co., Stanley, N. C.

Charter has been granted to Culpepper Textile Mills, Inc., Culpepper, Va., to manufacture cotton, silks and rayons.

The Americus Rayon Mills, Americus, Ga., have started up operations after an extended shutdown. This concern operates eight body knitting machines making rayon knit fabric.

Mary-Leila Cotton Mills, Greensboro, Ga., have installed 24 Model E Draper looms and four 208-spindle Whitin spinning frames.

Blair Mills, Belton, S. C., manufacturers of Turkish towels and children's wash clothing, plan a $10,000 addition, to be of brick construction with steel sash. The enlargement is in the sewing department.

TWO GREAT COST-REDUCING BELTS FOR YOUR MILLS

Goodyear is represented in your community by an authorized Distributor of Goodyear Mechanical Rubber Goods for the textile industry. Conveniently located, well stocked, and fully responsible, your Goodyear Mechanical Rubber Goods Distributor is able to supply you promptly with these mill-proved standard and special products

IF YOU want to know how thoroughly Goodyear understands textile mill needs, you have only to examine the special construction of two belts designed and developed by Goodyear expressly for textile mill service.

Goodyear COMPASS (Cord) Endless Belt is built particularly for those of your machines—such as the Vertical Openers, Pickers, Lappers and Twisters—which require belting of absolutely minimum stretch. Goodyear COMPASS is the most nearly stretchless transmission belt made. It is truly endless; made of cords laid side by side, bound with Goodyear rubber, and enclosed in a fabric envelope that is double on the pulley side. The cord carries the tensions; the cover takes the wear.

Goodyear THOR Belt, seamless*, is a textile belt with protected edges—no central seam—guarded with a covering envelope. It is notable for its capacity to give long wear and low replacement costs on Cards, Frames, Slubbers, Spoolers, Looms, Slashers and Breakers.

Just as definitely built for its purposes is Goodyear Air-Hose for clean-up use, and consequently just as effective in cost-reducing results in textile mills.

Goodyear Mechanical Rubber Goods for the textile industry are the products of long and intimate experience with the industry. They are all accurately specified to your particular mill operations by the G.T.M.—Goodyear Technical Man. To get in touch with him, write to Goodyear, Akron, Ohio, or Los Angeles, California, or call your nearest Goodyear Mechanical Rubber Goods Distributor.

* Goodyear THOR Belting, seamless, is made in widths up to and including 16"—THOR quality of special construction is available for larger sizes.

THE GREATEST NAME IN RUBBER

GOODYEAR

TEXTILE BELTING

COMMENT ON THE COTTON MARKET

New Orleans, April 15th, 1933.

WITH resumption of trading last month, following the bank holiday, the cotton market experienced an important advance, but the sharp rise in values attracted free offerings, causing the market to recede considerably. There was good support on the recession, and, except for temporary reactions, values assumed an upward trend again, so much so that finals for today show only slightly lower than they were when trading was resumed one month ago.

With the return of real beer, the improvement in the financial situation throughout the country, and because of the recent important advance in the price of wheat, there prevails a more cheerful feeling as to the outlook for a revival in general business. In this connection late advices from the steel industry are encouraging, and there has been more doing of late in the domestic cotton goods markets, as well as some increase in the demand for raw cotton in the South.

The advancing tendency of wheat, due largely to prospects for the smallest U. S. winter wheat crop since 1904, had much to do with the bullishness in the speculative markets since higher wheat contributes to increasing the purchasing power of the farmer, which is favorable for trade expansion. Other features that attracted attention were the progress of the farm relief bill and talk of probable inflation. Agitation for consideration of the silver question or other schemes for currency inflation, tended to help sentiment. As a result the cotton, grain and stock markets have become more active and higher.

Developments to come of the international conference to be held in Washington soon as a prologue to the world economic conference, scheduled for July in London, will likely be followed closely and with much interest.

The final Census report, as to last year's American cotton crop, indicated total ginnings for the season of 12,703,281 bales, counting round as half bales, and in bales of 500 pounds gross weight equivalent to 12,994,430 bales, which compared with the December 8th government estimate of 12,727,000 bales of 500 pounds gross weight. Recently the world's cotton crop was estimated at about 22,789,000 bales compared with 26,535,000 last season.

Compared with last season the world's consumption of American lint cotton during February was placed at 1,095,000 bales versus 1,093,000, and of all kinds 2,002,000 against 1,933,000; for seven months, August to February inclusive—7,990,000 bales versus 7,219,000, and all kinds 14,037,000 against 13,631,000, while the world's stock of American cotton at the end of February was put at 17,967,000 versus 18,428,000.

BRITISH BOARD OF TRADE REPORT FOR MARCH.

	This year	Last year
Exports of yarn, pounds	13,000,000	14,000,000
Exports of cloth, yards	210,000,000	203,000,000

CENSUS REPORT.

United States—Bales—	This season	Last season
Consumption, lint, March	494,167	488,907
Consumption, linters, March	50,082	55,388
Consumption, including linters, March	544,249	544,295
Consumption, lint, 8 months	3,747,316	3,565,889
Consumption, linters, 8 months	408,447	449,533
Consumption, including linters, 8 months	4,155,763	4,015,422
Mill stocks at close of March	1,343,314	1,566,080
Stocks in public storage and warehouse end of March	8,906,571	8,769,049
Stocks in mills, public storage and warehouse end of March	10,249,885	10,335,129
Active spindles during March	23,429,122	24,817,340
Active spindles during February	23,659,100	25,190,276

As yet there is uncertainty as to future developments as regards the farm relief bill owing to the numerous amendments proposed, but final action on it is anticipated in the near future. It is doubtful if the price fixing feature, if retained in the measure, would be entirely satisfactory to the South and to the trade as a whole, because it may encourage farmers to plant a larger acreage than warranted in view of prospects for another very large world's carryover of American at the close of this season, perhaps nearly as large as last year's 12,911,000 bales of lint.

Concerning preparations for the next American cotton crop, private reports issued thus far, as to intentions to plant, point to an increase in this year's cotton acreage; ranging from about 6 to 8.7 per cent. Compared with last season, returns to the New Orleans Cotton Exchange show sales of fertilizer tags during March, in ten cotton states, to have been 609,022 tons against 583,217, and for eight months, ending with the close of March—1,074,230 tons versus 1,054,226.

While the government expects to be making every effort to exact a reduction in the acreage when making loans to farmers in the interest of higher prices and a smaller crop this year in order to reduce the present very large surplus, the returns from private sources are not encouraging since they dwell upon the probability of an increase in the acreage. Already a large portion of this year's acreage has been planted in the southern half of the belt. What the farm relief bill, now before Congress, may provide to combat the present acreage situation, remains to be seen.

During the week ended April 10th, planting, according to private advices, was retarded in many areas on account of wet soil and low temperature conditions. However, cotton in many fields in the southern half of the belt was reported up to a stand. West Texas appears to be in need of moisture. During the winter temperatures remained mostly near or below normal and weather conditions in general have not favored rapid emergence of the boll weevil from hibernation. Sales of livestock in southern markets during February continued at a rate above sales a year ago, but showed less increase than in other recent months. At present the central and eastern belts are in need of a period of good weather to permit progress of farm work, whereas west Texas, that is the western part of the state, is in need of a good general rain to put land in condition for planting.

TOTAL AVERAGE RAINFALL IN TEXAS, IN INCHES.

Year—	1933	1932	1931	1930	Normal
March	1.94	1.44	2.50	1.73	2.08
November to March inclusive	10.21	15.51	12.92	9.86	10.20

While future climatic conditions in the cotton region are uncertain, private returns indicate a somewhat larger acreage to cotton than last year in the South this year, and a somewhat larger use of fertilizer and livestock, and nothing has been heard of the boll weevil so far, but the central and eastern belts have been having too much wet weather. On the other hand a general copious rain is wanted in the western half of Texas.

Cotton Commencements.

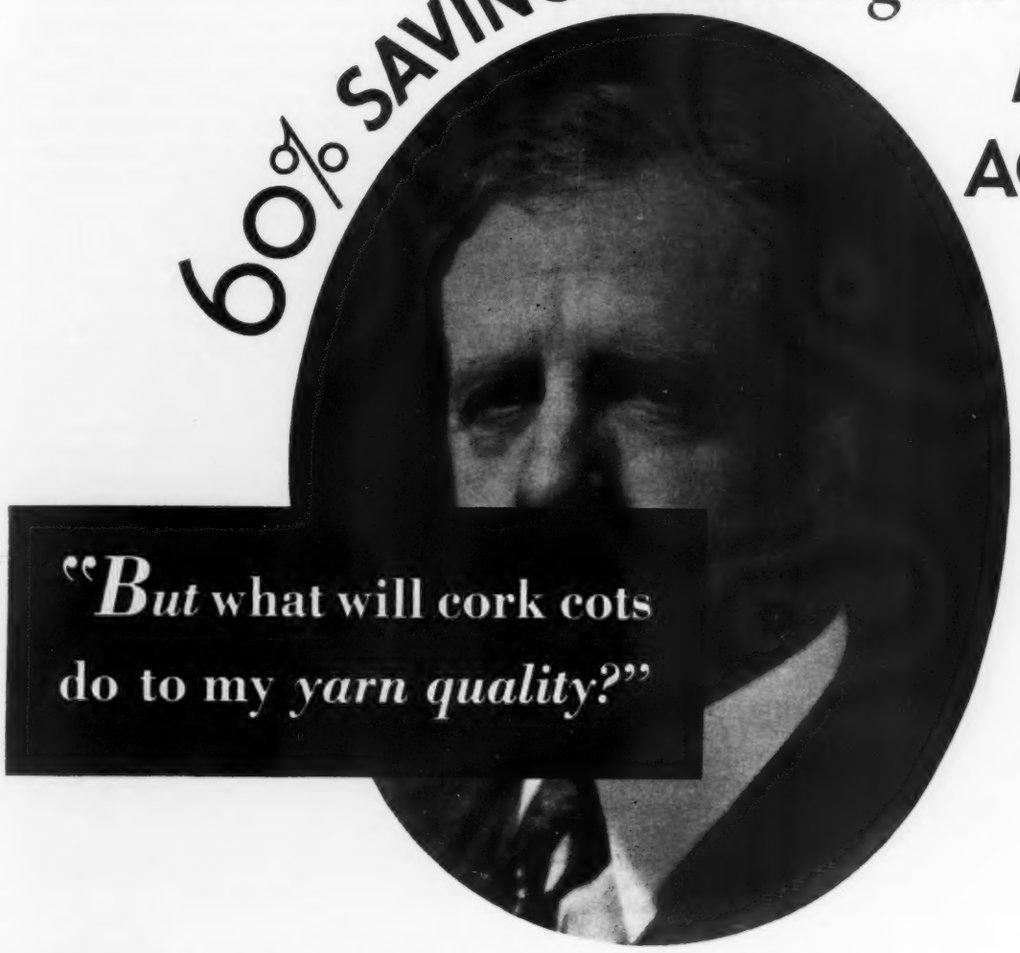
The idea of "cotton commencements," especially featured by high schools and colleges in the cotton states during the past two years, takes on added significance this year, according to the Cotton-Textile Institute, on account of the growing tendency in various sections of the country to have both boy and girl graduates wear cotton caps and gowns.

Academic gowns uniformly alike, add to the picturesqueness of graduation exercises and where adopted they have solved the expense problem of graduation attire. The urge for economy, the Institute says, will be an important factor this year in more schools turning to caps and gowns, since their use saves graduates and their families the cost of new suits and dresses for commencement exercises.

Use of cotton fabrics for caps and gowns has been steadily increasing and the spread of the "cotton commencement" idea offers a large outlet for cottons. The idea is applicable both to high school and college graduation exercises.

Estimates indicate that upwards of 300,000 young men and women will graduate from colleges, universities and high schools this year. Since about 7¼ yards of fabric are required for the average cap and gown, the universal adoption of cottons for this purpose would account for the consumption of over 2,000,000 yards of cotton goods. A dark gray poplin is the popular cotton for commencement gowns. Although ready-made caps and gowns are generally selected by a class as a unit, this type of attire is also easily made at home and offers an opportunity for girls to demonstrate their skill with the needle, at the same time effecting a worth-while saving in the cost of commencement apparel.

60% SAVING sounded good to this MILL AGENT...



NATURALLY he was interested in saving money! Who isn't? And he was quick to see how Armstrong's Seamless Cork Cots would cut roll costs in his mills, as they have in hundreds of others.

But one big question lingered in his mind: what would these cots do to the quality of his yarn? On this point, he had to be *shown*.

The facts are that Armstrong's Seamless Cork Cots are producing stronger, more even yarn in many mills.

Why is this true? Because these cots, with a uniform drafting surface, that is free from seams, run longer between buffings than ordinary covers. They are affected less by humidity and hard ends. Lap-ups are greatly reduced. There is less clearer waste—eyebrows are practically eliminated. The net result is better running work, fewer roll changes, fewer piecings, and a reduction of slubs in the yarn.

Add to these advantages the fact that Armstrong's Seamless Cork Cots cut roll covering costs by as much as 60%, and you can see why today more than six million spindles are "on cork"—and the number is fast increasing. Don't take our word for it. Try these cots out in your own mill. Compare them with other rolls—of any material. Judge them by results!

Our booklet, "The Facts About Armstrong's Seamless Cork Cots," will tell you what other mills have found out. Fill in and mail the coupon below.

Armstrong's (A) Product

Armstrong's
SEAMLESS CORK COTS
For Spinning and Card Room Rolls

Armstrong Cork & Insulation Co.
923 Arch Street, Lancaster, Penna.

I would like to know how I can prove these savings in my mill. Please send me without obligation your book, "The Facts About Armstrong's Seamless Cork Cots."

Name.....

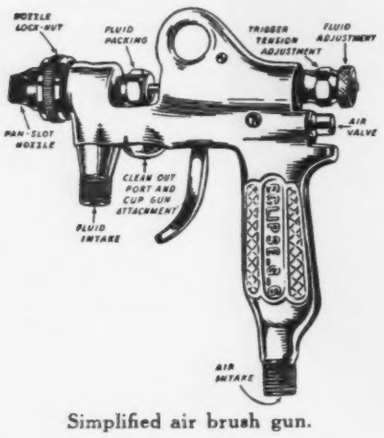
Firm Name.....

City..... State.....

NEW TEXTILE EQUIPMENT AND PUBLICATIONS . . .

Eclipse Announces New C-6 Air Brush Gun of Simplified Design.

Eclipse Air Brush Co., Inc., Newark, N. J., have announced the new Eclipse C-6 air brush, a feature of which is an "out-in-the-clear" fluid plunger packing chamber, as well as greater capacity for applying all types of coating materials, and increased flexibility while executing every type of spray painting.



Simplified air brush gun.

The new gun has a variable trigger tension adjustment to be regulated to suit the operator which makes, it is pointed out, for greater comfort and easier operation.

Regulation of the flow of the sprayed material is accomplished by a knurl-nut adjustment located at the "hammer position" on the gun. Width of spray may be varied to suit the operator and the working conditions. The gun operates at low pressure, and, it is stated, gives even distribution of coating materials at all times, eliminating the "fish tail" effects or hollow centers The new brush employs the Eclipse patented fan slot, internal mix nozzles. A wide assortment of extensions, up to eight feet in length, may be secured, eliminating frequently the inconvenience of special staging and scaffolding.

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New DuPont Green.

The dyestuffs division of E. I. duPont de Nemours & Company, Wilmington, Del., has just announced the development of Pontamine Diazo Green GW, a dyestuff which when diazotized and developed with Pontamine Developer ZN, produces very brilliant shades of yellowish green. The color is recommended for use on cotton, rayon and pure silk. The company states that Pontamine Diazo Green GW is expected to find extensive use for application to cotton-rayon mixed goods due to its unusual property of dyeing an excellent union on these fibers in full shades at temperatures near the boil.

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New Line of G.E. Controllers for Synchronous Motors.

All standard lines of General Electric synchronous motor control have been superseded by new lines incorporating new and important features. Included in this control equipment are relays for automatically applying and removing field excitation and for protecting the stator and amortisseur windings under all operating conditions.

For automatically applying field excitation when the motor reaches a predetermined speed near synchronism, a new relay known as the self-frequency field-application relay is provided. The coil of this relay is connected across a section of the field discharge resister with a half-wave copper oxide rectifier in series with it. During the starting period, induced field current of slip-frequency flows through the discharge resistor so that half-waves of slip-frequency current flow through the relay coil causing the relay to pick up and open its normally closed contacts. This relay has a short time delay drop-out which holds the contacts open during the period of acceleration. When the motor reaches a predetermined speed near synchronism, the time interval between half-waves of current is sufficient to allow the relay to drop out and apply field. By a simple adjustment of the relay, its time setting can be varied so that it will apply at any predetermined speed from 92 to 99 per cent of synchronous speed.

In addition to a means for automatically applying field excitation near synchronism, the new General Electric motor controllers are provided with a power-factor field-removal relay which automatically removes field excitation when the motor drops out of synchronism. The operation of this relay depends upon the power factor of the line current drawn by the synchronous motor. The relay is designed so that it remains closed if the motor power factor is leading, or unity, or not less than 60 per cent lagging, even for a power factor, however, becomes less than 60 per cent lugging, even for a short time, the relay operates to open its contacts and remove field excitation. Hence, this relay will remove field only when the motor pulls out of step, and under such conditions it operates to remove field immediately, that is, during the first slip cycle out of synchronism.

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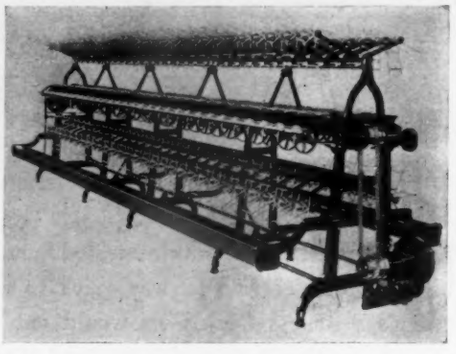
"Separator" for Atwood Double Deck Winders.

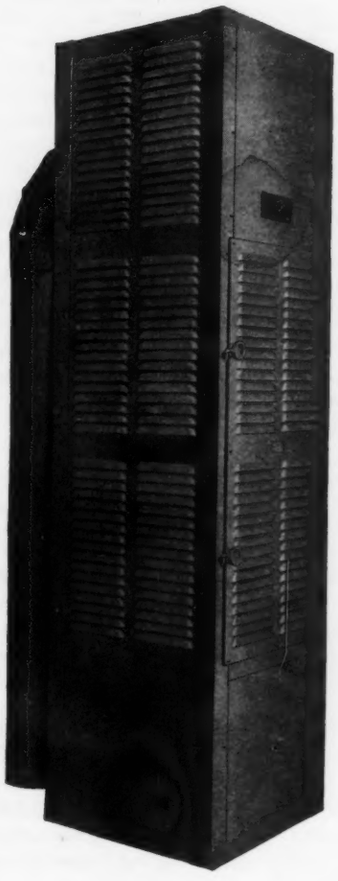
The Atwood Machine Company, Stonington, Conn., has recently been granted a patent covering a "separator" or "baffle plate" for double deck winders. This device is mounted between the upper and lower deck take-up bobbins. It is applied to Atwood double deck winders, on which machine each friction wheel drives two sets of bobbins. It is explained that there can be no tangling of yarn between the upper and lower deck bobbins, as this device prevents loose ends from one bobbin from being entangled with the neighboring bobbin.



Showing an Atwood double deck winder equipped with the recently patented "separator" or "baffle plate" . . .

The use of the Atwood double deck winder is extended by this device, the company explains. The single set of friction wheels serving both decks is an economical construction, and, by use of the new device, a double deck can be conveniently added to existing Atwood single deck winders. The company further states that, "this device is particularly applicable where owners wish to convert single deck winders into double deck winders. While making the latter change, it is also practical to install other new Atwood features, such as oilless fingers, oilless hangers, and the new oilless steel jacketed traverse roll with fiber locking strip, as well as the improved cam roll and traverse lever constructions." These features, as well as the new baffle plate, are included as regular equipment on Atwood's new Stonington double deck winder.

Uniform picker room conditions at your request!



Filter

the air, don't *change* it

Air Filtration and Recirculation creates new standards in the opening and picker rooms because, for the first time, a perfectly conditioned and stabilized atmosphere is possible with ordinary humidifying equipment. Instead of exhausting the air and replacing it with variable and uncontrolled atmosphere, Saco-Lowell Filters recirculate the SAME air over and over again with all dust and leaf removed—retaining all the humidity except that taken up by the cotton.

Improved Quality. Better cleaning—beaters, grids and fan speeds can be set to meet a fixed group of conditions. Improved evenness and uniformity—the same poundage of cotton in every lap every day. Variations in numbers throughout the mill, now caused to a great extent by variable picker room conditions, are greatly reduced.

Savings. Eliminates dust cellars. Cost of winter heating in mill greatly reduced. Frequent gear changing eliminated.

Fire Safety. Fire hazards eliminated. Cannot spread. If started, will automatically be smothered in Filter.

Users say: "There is no apparent seepage of dust from the Filter at all. It is taking care of the discharge from a No. 2 condenser with self-contained fan very nicely."—"The Filter is installed to receive the discharge from the dust removal hoods under the screens of FOUR Centrif-Air Cleaning Machines, is collecting more than 20 lbs. of dust and short lint every day, and doing what I consider a perfect job of filtering."

In our opinion there is no investment a mill can make that will be more beneficial than the installation of this system.

SACO-LOWELL Recirculating Air Filter

SACO-LOWELL SHOPS

147 MILK STREET, BOSTON, MASSACHUSETTS

CHARLOTTE, N. C. SPARTANBURG, S. C.

ATLANTA, GA.

TIMELY NEWS ITEMS WITH A TEXTILE SLANT . . . .

Sonoco Products Manufactured in Canada.

The Sonoco Products Company of Canada, Ltd., commenced operations in their plant at Brantford, Ontario, in April. This concern is to manufacture cones and tubes under the patent rights and to the same specifications as are Sonoco products now made in Hartsville, S. C., Rockingham, N. C., and Plainfield, N. J. The Canadian company is affiliated with the Sonoco Products Company of Hartsville, S. C., and the Textile Paper Tube Co., of Manchester, England. Especially made and newly designed machinery for equipping this plant was made in Hartsville, S. C., to insure the high speed economical production and uniform precision as found in the Sonoco products.

W. J. Westaway Company, Ltd., of Hamilton, Toronto and Montreal, are the exclusive sales representatives for Sonoco of Canada. They have sold Sonoco products in Canada for years, and the manufacturers point out, the advantages of a local manufacturing plant, in matters of quick delivery and low transportation costs, insures a greatly improved service on Sonoco products to the Canadian textile industry.

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Carolina Yarn Association Tournament at Roaring Gap, September 15-16.

Howard Cannon of the Duplan Silk Corporation, Charlotte, N. C., was elected president of the Carolina Yarn Association at its annual meeting held in March at the O'Henry Hotel. It was decided to hold the annual golf tournament on September 15 and 16 at Roaring Gap, N. C., where last year's tournament was held.

Bruce Griffin of the Industrial Rayon Corporation of Charlotte, N. C., was elected vice-president to serve with Mr. Cannon; D. F. Wallace of Statesville, N. C., yarn mill representative, was named secretary and Jos. R. Morton of Tubize Chatillon Corporation, Greensboro, N. C., is treasurer.

Norman Griffith of the Kaumagraph Company, Charlotte, was appointed chairman of the invitation committee, Ray W. Weaver of Textile Machine Works, Greensboro, chairman of the entertainment committee, and W. A. Underwood of Cetwick Silk Mills, Asheboro, N. C., chairman of the tournament committee.

Taylor and Company Build Plant for Vulcanized Fiber Products.

Taylor and Company, Inc., Norristown, Pa., manufacturers of vulcanized fiber and phenol fiber, are to complete the construction and commence operation of their new and modern plant during the early part of May. The company is to produce a complete line of vulcanized fiber, fish paper and laminated phenolic products including noiseless gears.

The plant is located on the Schuylkill River about 20 miles from Philadelphia. It is new from the ground up and is equipped throughout with machinery of special design. The company has been able to incorporate improvements in manufacturing processes tending toward improved quality and decreased costs, it is pointed out, which are only possible in a new plant.

The executive organization of Taylor and Company and its entire operating personnel is composed of men formerly associated with the Diamond State Fiber Company and its subsidiary, the Celoron Company.

J. M. Taylor, president, L. T. McCloskey, sales manager, and C. N. Jacobs, plant manager, all held similar positions with these companies. They have all had wide experience in manufacturing the products which Taylor and Company will produce.

:: :: ::

Nopco Erects New Building.

C. P. Gulick, president of the National Oil Products Company, Harrison, N. J., recently announced plans for the immediate erection of a four-story building which will add 50,000 square feet of floor space to the present plant. This expansion has been made necessary, Mr. Gulick said, by the numerous new products developed by the company and successfully marketed. The company, originally making sulphonated oils for textile and leather trades, has expanded its activities to include products for food, cosmetics, paper and various other fields. Vitamin D concentrates, not only for animal feeding purposes, but for human food consumption, is one of the company's developments. Another is Admiracion, a soapless shampoo.

The new building is to be modern in every respect, and will house offices, warehouses and factory space. The improved methods of manufacture made possible by installation of the latest equipment will aid materially in the processing of soluble and emulsifiable oils for the textile and leather trades.

:: :: ::

Work Started on Goodrich Gardens.

Work on the B. F. Goodrich Company gardens for former employees and part-time workers at Akron, Ohio, has been started. It is estimated that 750 men will be engaged in the vegetable growing project this year. The planting this year will be done on 133 acres. The Goodrich plan anticipates that one day's work a week for each worker over a 25-week period will give the participant and his family vegetable food for 36 weeks. Last year workers on the farm took part in the activities regularly during the season received more than a ton of garden produce.

:: :: ::

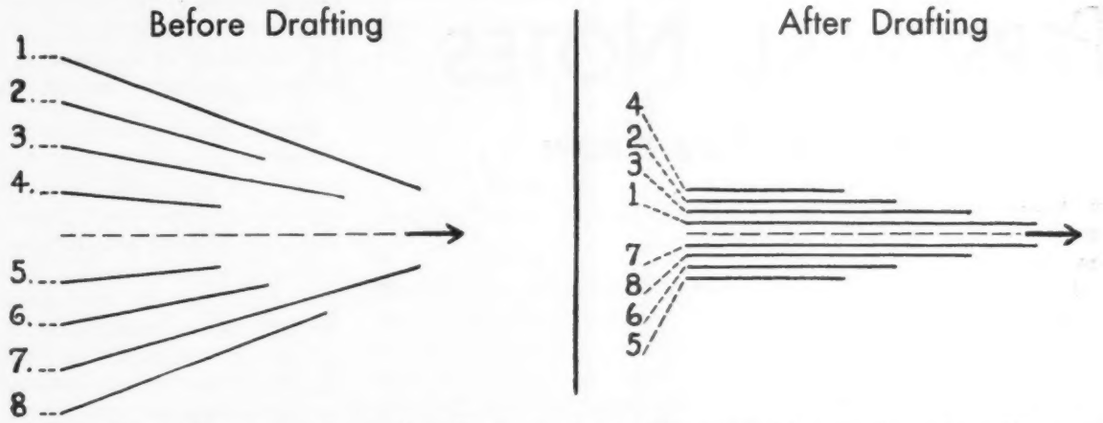
Graichen Is Manager of Special Service Department for H. M. McCord.

O. B. Graichen has assumed active management of the recently established service department of the organization of H. M. McCord, 200 Fifth Avenue, New York City. This department specializes in the handling of manufacturing problems for concerns in the textile field. Mr. Graichen was formerly with Lockwood Greene Engineers, Inc., and has a background of long and successful experience in conducting property and plant surveys, the planning of equipment layouts, production schedules, costing set-ups, audits, etc., for many leading manufacturers in this country and abroad.

:: :: ::

James E. Mitchell Company Moves to Manayunk.

After nearly three-quarters of a century in the heart of Philadelphia's yarn district at Second and Chestnut Streets, the James E. Mitchell Company, cotton yarn merchants for three generations, have moved to the Mitchell Building 108 Levering Street, opposite the Reading Station, Manayunk. In announcing the move to the trade, John J. Mitchell, Jr., president of the company, stated, "Efficiency and an opportunity to improve our service to the trade have been the primary factors in our removal." One of the immediate results of the change of location was an increased service to knitting and weaving mills through the establishment of a "warehouse-milldoor delivery" system, with additional trucking facilities for emergencies. The warehouse in Manayunk is away from the congested traffic zones of the city and quickly accessible to the main highways. In addition, the Mitchell building, with light and air on all sides, affords an increased storage space.



Schematic diagram illustrating tendency of long fibres to work toward the center of the yarn during the drafting operation, if allowed to assume their natural positions.

WHY H & B LONG DRAFT SPINNING MAKES A BETTER YARN

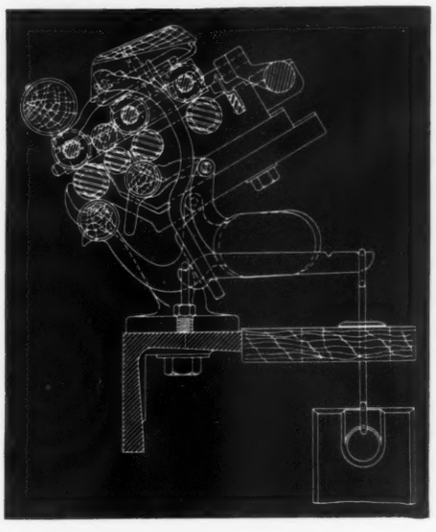
DURING the drafting operation, the longer fibres in roving, if allowed to assume their natural positions, will be pulled toward the center line of draft, while the shorter fibres will tend to move outward (see diagrams). This is essential for the making of a good yarn.

If this is permitted to happen, the natural result is a stronger and more uniform yarn. This is so because the longer fibres (forming the core) are not subjected to so much angular stress as they would be if twisted around the shorter fibres. Being relieved of this excessive angular stress, they have less tendency to break up into shorter fibres.

H & B Long Draft Spinning gives the fibres more opportunity to assume their natural positions during the drafting operation than do other systems, because it does not hamper the natural movement of the fibres with belts or other devices.

Roller No. 2 in the H & B system performs the same function as do the belts in other systems. That is, it prevents sagging and controls the shorter fibres. However it does not interfere with the natural movement of the fibres, because it makes a single point contact rather than a continuous contact. Furthermore the bite of this roll is not carried so near to the front roll as in belt systems, so that a *natural arrangement of the fibres occurs and "plucking" is prevented.*

Note that in this four-roller system, fly (and other waste) has an opportunity to fall clear. It does not bunch up and is not carried into the yarn.



The H & B Four-Roller system, being simpler, is of course cheaper to instal and to maintain than more complicated systems, also cleaner. Specify H & B and get better quality as well as lower operating costs.

H & B AMERICAN MACHINE COMPANY

Cotton Preparatory and Spinning Machinery

PAWTUCKET, R. I.

BOSTON OFFICE, 161 Devonshire Street,

ATLANTA OFFICE,

815 Citizens and Southern National Bank Bldg

H&B FOUR-ROLLER LONG DRAFT SYSTEM

PERSONAL NOTES
about Men You Know

L. W. ROBERT, JR., who was appointed by President Roosevelt as assistant secretary of state in charge of public building programs, is well known in the southern textile industry as president of Robert & Co., Inc., Atlanta, Ga., architects and engineers, prominently identified with southern textile construction and activity. Mr. Robert's appointment was confirmed by the Senate and the oath of office administered on April 17, he having already commenced his new duties. CHERRY L. EMERSON is now president of Robert & Co., Inc., and JESSE M. SHELTON is executive vice-president.

C. L. LEOPARD, formerly overseer of weaving at Rhodhiss Mill No. 1, Rhodhiss, N. C., has become overseer of weaving at Jackson Mill No. 2, Wellford, S. C.

J. H. CLEGHORN is now overseer of spinning at the Cotton Mill Products Co., Mobile, Ala. He was formerly overseer of carding at the company's plant at Koscuisko, Miss.

LAWRENCE HART, graduate of the Clemson textile department in 1931, has resigned his position as second hand at the Renfrew plant of Brandon Corp., Travelers Rest, S. C., to take a similar position with the Pacific Mills, Lyman, S. C.

J. LAURENCE IVERS has become assistant superintendent of the Meritas Mills, Columbus, Ga. Formerly superintendent of the Renfrew Mfg. Co., and later with the Newmarket Mfg. Co., Mr. Ivers has had wide experience in colored goods mills in New England, having been with the Pemberton Mills, Lawrence, Mass., for a number of years. He is a graduate of the New Bedford and Fall River textile schools.

A. V. WRIGHT is now overseer of spinning, spooling and warping at Mill No. 1 and Mill No. 2 of Aragon Baldwin Cotton Mills, Baldwin plant, Chester, S. C. He was formerly connected with the Chadwick-Hoskins Company, Charlotte, N. C.

JAMES J. O'MEARA, superintendent of the Fitchburg Yarn Company, Fitchburg, Mass., completed on April 8th 25 years of service with the company. Mr. O'Meara started in 25 years ago as second hand in the carding department under WILLIAM E. KEACH, superintendent, and GEORGE P. GRANT, JR., general manager. He later became overseer and then superintendent. At one time he was also general superintendent over both the Fitchburg and Grant Yarn Mills until the latter liquidated. Mr. O'Meara has always worked on fine numbers, with the exception of three years spent with the Whitin Machine Works, and has had a varied experience on tire, knitting, voile, lisle, crepe and thread cotton yarns as well as staple fiber.

L. T. MCCLOSKEY has resigned as vice-president of the Continental-Diamond Fibre Company to become associated with Taylor & Co., Inc., Norristown, Pa., manufacturers of vulcanized fiber and phenol fiber.

D. B. NORTON is now connected with the Charlotte, N. C., laboratory of the Sandoz Chemical & Color Co., as dye tester and color matcher. He was graduated in the textile department at Clemson College in June 1932.

GEORGE MORAN, former chief chemist of the Pacific Print Works, Lawrence, Mass., has joined the sales technical service division of The Calco Chemical Co., Inc., replacing C. A. FUNKE, resigned. In his new capacity, Mr. Moran is directing the technical service in the printing and dyeing of the Calco fast colors, and has established headquarters in the main plant of the company at Bound Brook, N. J.

A. N. BOZEMAN, a graduate of the Clemson textile department, class of 1931, has been granted a leave of absence by the Dunean Mills, Greenville, S. C., to take a special course of training in the application of dyestuffs in the testing laboratory of the General Dyestuff Corporation, Charlotte, N. C.

ROY C. MUIR, for three years assistant to the late CHARLES E. EVELETH, vice president in charge of engineering, has been appointed manager of the engineering department of the General Electric Company. In his new capacity, Mr. Muir has direct charge of the company's designing engineering in all of its various plants, the works laboratories, and the general engineering laboratory at Schenectady.

W. W. GLENN, secretary-treasurer of the Melville Mfg. Co., of Lincolnton, N. C., was named general manager of the estate of the late DANIEL E. RHYNE, which includes a number of cotton yarn mills that will be operated under the direction of Mr. Glenn.

E. Q. OGBURN has become overseer of weaving at the Arcade Cotton Mills, Rock Hill, S. C.

MRS. BEN BAKER has been elected president of the Virginia Cotton Mills, Swepsonville, N. C., succeeding W. C. KIRKPATRICK. LYNN B. WILLIAMSON, WALTER WILLIAMSON, and J. R. COPELAND, all connected with the E. M. Holt Plaid Mills, Burlington, N. C., have been made executive vice-president, secretary-treasurer, and manager, respectively.

JOHN D. GREEN has resigned as overseer of carding and spinning at the Oakleaf Mills, Callaway Mills, LaGrange, Ga., to become superintendent of the Howell Mfg. Co., at Cherryville, N. C.

Obituary

J. MARION DAVIS, for the past 30 years superintendent of the Newberrry Cotton Mills, Newberry, S. C., passed away on April 21 following an operation at a Newberry hospital. Mr. Davis, who was 62 years of age, was one of the best known mill men of the South. He had been president of the Southern Textile Association, and was active in local civic, religious and fraternal affairs at Newberry, where he was formerly mayor. He was a former district governor of Kiwanis.

AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

The Story of Old Timer's Methods of Working and Management

Part Twelve—Continued from April Issue

WE continue here with Old-Timer and Jim on their trip through the slasher room. Eleven installments, which have brought them this far through the mill, have already been published. Readers interested in securing these may ask the editorial department as to how they may be secured . . . . . .

(Note: Since this series is written in conversational style, it should be borne in mind that those paragraphs in regular type represent OLD-TIMER'S part of the conversation, and those in *italics* are JIM'S part.)

By the way, OLD-TIMER, *why have you got that little 3/8-inch pipe with a valve in it going around the other valve in your steam feed line which goes into your cooking kettles?* (See Fig. 1.)

Simply because, JIM, I have never seen a size cooker (a man who cooks the size) who would not cook the size too fast if you were not watching him. Even when you have recording instruments on your cooking kettles he will find excuses for bringing the size up to a boil too quickly, and that is one of the main faults in cooking size.

Another very important thing, JIM, is to arrange your cooking kettles so the man will start his mixing with the same amount (gallons) of water each time. This is just as important as putting in the same quantity of starch each time because the condensation of steam during the cooking time is practically the same on each kettle (with the possible exception of Monday morning when everything is cold), and unless you start with the same gallons of water your sizing will vary in strength or amount of starch per gallon of finished size.

Well, what do you expect the man to do, OLD-TIMER, *put in so many buckets of water like he does the starch (weighed buckets of starch of course) or measure the water with a stick that has a notch on it or something?*

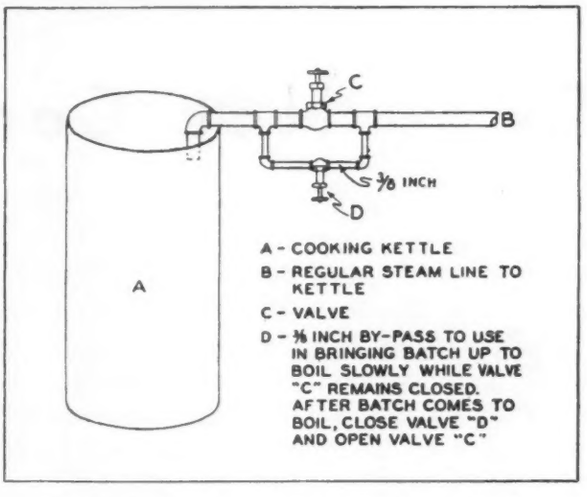
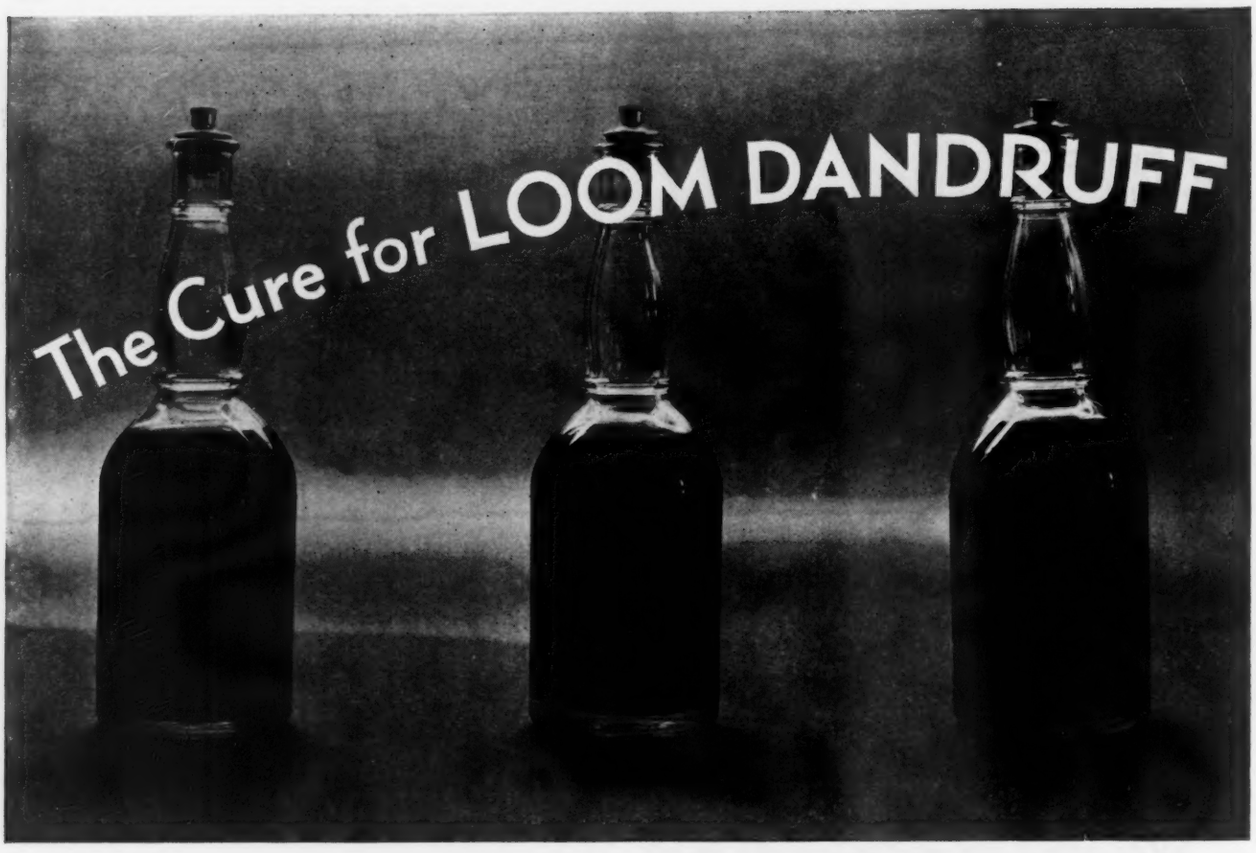

C
B
3/8 INCH
D
A
A - COOKING KETTLE
B - REGULAR STEAM LINE TO KETTLE
C - VALVE
D - 3/8 INCH BY-PASS TO USE IN BRINGING BATCH UP TO BOIL SLOWLY WHILE VALVE "C" REMAINS CLOSED. AFTER BATCH COMES TO BOIL, CLOSE VALVE "D" AND OPEN VALVE "C"

Fig. 1, showing by-pass on steam line to kettle.

No, JIM, I think about the best arrangement I have seen is a piece of about 1½-inch pipe with a valve on it, screwed into the kettle at the height on the kettle where you want the water to come to, somethink as shown in Fig. 2. With the valve open, start drawing in the water. The man can go about his other work, then when the water begins to run out of the pipe "b" cut off the water and you are ready to add starch, etc. The position of the pipe "b" on the kettle must be determined by each mill, depending on the distance from the boilers to the cooking kettles, steam pressure and many other local conditions. In other



Does Not Come In a Bottle!

There's no formula—no set way of cutting slasher costs. Every case is an individual one requiring an individual answer. Trained in the fundamentals of control, our engineers are in the fortunate position of being able to apply fundamentals to each case. They do not try to apply the same answer that has been used elsewhere to your problem unless both problems are identical.

The great savings that our engineers have made on slasher operations come from many sources. They may come from the amount of starch used in the size—or in the way it is cooked—or in the amount that is used—or in the way it is dried—or in the time of the entire operation—or in the loom breakage. Usually a saving can be made in all of these and others too.

Here are some of the savings made in a recent case:

A 15% increase in slasher speed.

A 12% decrease in steam used.

A 10% actual increase in production.

A 35% decrease in breakage on the looms.

Talk to a Foxboro Engineer. There is no obligation — and you will undoubtedly profit from the talk. Write today to The Textile Division, The Foxboro Company, Foxboro, Mass.

Textile Instruments

In addition to slasher control Foxboro has a complete line of Recording and Controlling Instruments and has applied them with success to practically every textile mill operation. Send your problem to us.

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REG. U. S. PAT. OFF.
THE COMPASS OF INDUSTRY

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words, you must determine how much water you need in the kettle to make the finished or cooked size fill up the kettle.

A few other little points to remember and look after, JIM, are:

If starch is added to the water too fast, it will surely lump; pour starch into the kettle very slowly.

Hot water will invariably lump the starch.

Holes in the steam coil will get large with use. They should be very small. This will help agitate the starch and give more even distribution. I know of a mill that was having all kinds of trouble with variation in their size; soft warps would show up even when they added so much starch that part of the warps were much too heavy.

After changing starch several times and experimenting with all the sizing compounds in the country with no improvement, they found the perforated steam pipe in the size box on the slasher not only had holes

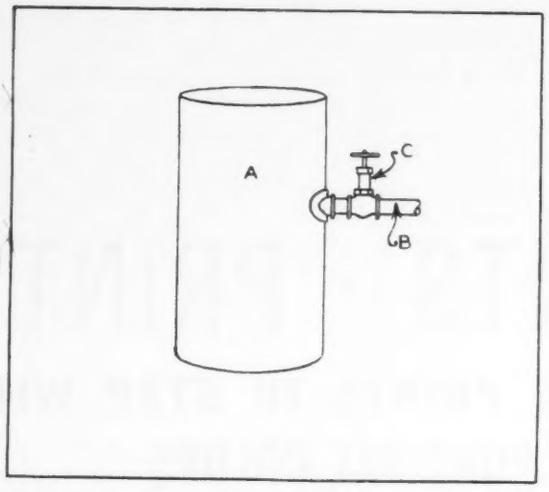

Fig. 2, A is kettle; B, 1½-inch pipe; and C, the valve, for determining height of water in kettle.

in it that were too large, but the holes were "looking up" instead of being horizontal or parallel to the bottom of the size box.

The result was that a very small amount of steam would shoot up through the size and give it the appearance of boiling when it was really only being agitated by the flow of steam. The size in the bottom of the box was practically cold.

That shows why all size boxes should be equipped with thermometers, OLD-TIMER.

Yes, JIM, those size boxes were equipped with thermometers, but they were—. Oh, well, there is no use going into detail about the thermometers. The thermometers were all right, and you have been given the idea that I was trying to bring out, so look at yours, and if they are all right, then forget it for awhile, but you better look again in about a year or so.

Whose slasher cloth is that, OLD-TIMER?

Ours, of course, JIM. We paid for it as soon as the invoice came in.

Think you're smart, or something, don't you? You know what I meant, but if I have to say it the long way just because you can't understand average United States language, here goes: What woolen mill?

Sure, JIM, I know what you wanted me to say, but just at the moment darned if I could think of the trade name of the cloth or the manufacturer either. However, that does not matter, and as the Editor will not let us call names out loud so our readers can hear, we will talk about the wearing qualities of slasher cloth, then the readers can compare our reports with what they are doing, and have a comparison.

Well, OLD-TIMER, *our last year's record shows that our blankets last about five weeks, and we think that is pretty good.*

Yes, but JIM, that doesn't tell you anything. How many hours per week did you run? What number of yarn were you running, and how many ends in the set? What was the speed of the slasher and what was the weight of the squeeze rolls? Has your size got much alkali in it—

Oh, for the love of Mike, OLD-TIMER! *You always have to spoil everything by asking so many darn fool questions. Anyway, without going into all the details as to whether the slashers were facing east or west and whether the mill was built on red clay or sandy soil, Mr. Smarty, I'll say that my report was on just plain honest-to-goodness slashers, running print cloths, 30s warp, which takes in a range of 56/44 to 80/80 goods, and we run our slashers about the same speed as other folks, I suppose.*

Okeh, JIM. We will skip all of those details then, but I believe there is one question you should answer for us.

What is it?

How many yards of slasher cloth do you put on a roller at one time?

About 4½ to 5 yards, I believe. Why do you ask that, OLD-TIMER? *Isn't that about what everybody puts on?*

One of these smart salesmen came along about two years ago and told me that if I would put on more yards it would last longer and also be better on my yarns. That sounded perfectly sensible to me and so I went down to the slasher room and instructed our man to put on 6½ yards.

Good, OLD-TIMER. *I'm glad you told me that, and I do not see why in heck I hadn't thought of it myself, because anybody knows a 6½-yard blanket will last longer.*

Hold on, JIM. Not so fast, young fellow. Wait until you hear all of my story and perhaps you will get a surprise like I did.

Oh, well, go on, but anybody knows—

You mean they *think* they know. Anyway here is our record and you can take it or leave it as you like, but I would advise you to keep a few records and find out whether you really *know* what you *think* you know or not. The cost *per yard,* and not the cost per blanket is really what you want to know. We keep a record of the actual hours per week that a slasher runs and we charge each slasher with the yards of slasher cloth we put on it (not the number of blankets). Then we have the total hours per week, month or year, and the total yards of slasher cloth. We then divide total hours by total yards and we have hours per yard. So here is how the different length blankets turned out, using the same make of slasher cloth, but varying the length or yards per blanket put on:

PRINTS . . . PRINTS

PRINTS · PRINTS · PRINTS

KEEP YOUR PRINTS IN STEP WITH DU PONT VAT COLORS

•

Ponsols
Leucosols
Sulfanthrenes

PRINTS have been extremely popular for the past few years. But summer, 1933, finds them at a new high. Prints are everywhere, from the crown down and the sole up.

Whether for direct or discharge printing on cotton and rayon fabrics, these du Pont *Fast* Colors enable you to march with the mode—and supply any of the patterns in popular demand.

Send for samples today . . . and keep in step with the print parade for summer and fall.

DU PONT DYESTUFFS
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E. I. DU PONT DE NEMOURS & COMPANY, INC.

Organic Chemicals Department, Dyestuffs Division, Wilmington, Delaware

SALES OFFICES: Boston, Mass., Charlotte, N. C., Chicago, Ill., New York, N. Y., Philadelphia, Pa., Providence, R. I., and San Francisco, Calif. Represented in Canada by Canadian Industries, Limited, Dyestuffs Division, Beaver Hall Building, Montreal, Quebec, and 372 Bay Street, Toronto, Ontario

Yards to Blanket	Total Hours Run	Total Yards Put On	Hours Per Yard
6½	6188	136.5	45.26
4½	5894	108	54.57
3½	5968	84	71.04

You mean to tell me that the 3½-yard blankets lasted longer per yard than the 6½-yard blankets did?

There's the report, JIM, and I can give you another one on a different make of slasher cloth. Here it is:

Yards to Blanket	Total Hours Run	Total Yards Put On	Hours Per Yard
6½	12907	182	66.46
4½	11941	130.5	91.50
3½	11103	101.5	109.39

This is of course a better report than the first one I showed you, and I have two more here, but no need to take up space to show them. They tell the same story. Both of these reports were made on two slashers. The second test was carried over a much longer period.

Then how are you going to explain it, OLD-TIMER?

That would be a long story, JIM, and would probably keep some reader from making his own test to see if it shows up in his mill like it did here. What we are trying to do in these talks is to make people *think*, give them a thought and then hope they will conduct tests, keep records fairly, and learn something. In fact, find out that they do not *know* some of the things they *think* they know. So many things can and do affect such tests that every mill man should find out how his individual mill or room is affected.

More About Slasher Cloth.

For example, one of our tests showed 16-ounce slasher cloth stayed on the rollers longer than 18-ounce cloth; not really because the 16-ounce had better wearing qualities, but because with the 18-ounce on the slasher rolls the lap would make a streak of heavy size across the warp very easily, and when the overseer would pass by he would get after the slasher men about this streak of size across the warp. This caused the slasher men to be continually trimming the edge or lap of the blankets and combing them out with a piece of card clothing to prevent the streak of hard size, and this was the explanation of why the 16-ounce lasted longer than the 18-ounce.

And speaking of slasher cloth, do you measure yours, JIM, when you buy a roll? Never mind, you need not answer, because from that look you gave me I know you don't, and you also told me by that look that you thought I was springing some foolish question, or something, so I will ask you another question to bring out my point: Did you ever have a complaint on the yards to the pound of cotton cloth you had shipped to a customer? Hold on, I'll answer that question for you, too. Yes, I know you have. You have shipped out some cloth some times that was a few points lighter than the tolerance allowed, and have a kick on it. Then you go right on buying woolen cloth and paying the bills just like most cotton mills do, without measuring the cloth to see if they are shipping you what you are paying for . . . Wait a minute, I'm doing the talking, and I know what you are going to say, anyway, so just keep quiet until I finish my story. I have actually seen invoices from slasher cloth manufacturers that read something like this:

50 yards All Wool 16-ounce Cloth
52 pounds at $1.40 = $72.80

and the mill would pay the $72.80 without a question. In other words, the slasher cloth manufacturers would let the goods run heavy and then make you pay for it, while if *you* let your 4.00-yard cotton goods run 3.95-yards to the pound, you only get pay for your goods on a 4.00-yard per pound basis. You get pay for your cotton goods by the yard, and if you let your weights run heavy you simply lose that much cotton, but when you buy woolen cloth, you order 16-ounce or 18-ounce goods, and if the woolen manufacturer lets his goods run heavy you pay for it because he bills you by the pound. Now, what were you going to say, JIM?

Oh, nothing! I will measure and weigh the next roll I get.

Well, if you have a cloth calender or a stitcher that has a measuring device on it, you can easily run the roll of slasher cloth through and get the yards . . . And it's the same with belting, JIM. The salesman will come along and sell you 18-ounce loom belt, and then deliver 17-ounce belt to you and you pay the bill and take it for granted you are getting what you pay for.

Why in the dickens do you want to pick on me all the time, OLD-TIMER? *How about some of these other fellows?*

Never mind, JIM, most of them will take the hint and start in to find out for themselves. When you get your next roll of loom belt, be sure you get 18-ounce if you have ordered that weight, because hides that make 18-ounce are not as plentiful as lighter ones, and if they can deliver 17-ounce and you do not kick, they are not much to blame for continuing to do so.

If your invoice reads something like this:

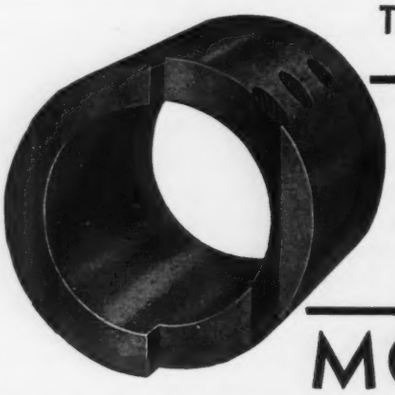
400 feet 18-ounce 2-inch single belt at 48 cents — 50% = $96.00

you can check it by weighing the roll of belt. Suppose it weighs 75 pounds (which very likely it does not) then proceed as follows:

400 feet × 12 inches to foot = 4800 inches × 2 inches wide = 9,600 sq. in.
9,600 divided by 144 sq. in. in 1 sq. ft. = 66.66 sq. ft.
75 lbs. × 16 ounces = 1200 ounces.
1200 ounces ÷ 66.66 sq. ft. = 18 ounces per sq. ft.

Chattanooga Yarn Association Golf Tournament, May 25-26.

The 8th annual golf tournament and banquet of the Chattanooga Yarn Association will be held at the Chattanooga Golf and Country Club, Chattanooga, Tenn., on Thursday and Friday, May 25 and 26. D. O. Blevins, of the Kaumagraph Co., is president of the association. All mill men from the southern district, New York selling representatives and others are invited. The annual banquet will take place on Friday night, May 26.



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which give the same efficient service that ball or roller bearings give—which require oiling only once or twice a year—yet maintain a positive unbroken oil film on the bearing surface and eliminate waste of oil in drippage to damage stock, belt or floors. Standard for over 15 years with textile machinery manufacturers. Write for descriptive literature.

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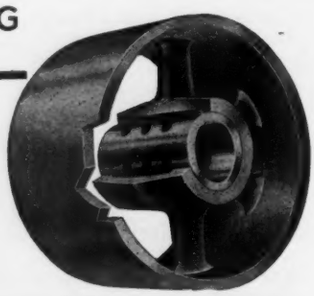

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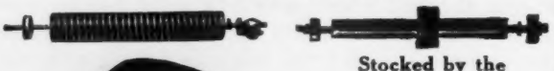

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HOW OTHER MEN MANAGE

Practical Discussions by Cotton's Readers On all Varieties of Mill Subjects

What Causes "Button-holes" in the Selvage?

Here's a question for you weavers to discuss. Let's hear from you on it.

EDITOR COTTON:

I have a question on weaving which I would like to submit for discussion in your "HOW OTHER MEN MANAGE" department, and that is, what causes "button-holes" in the selvage on cloth?

One man told me that it was "tender" filling, and explained it in this way: The warp is 42½ inches in the reed, the cloth is 40⅛ inches wide on the take-up rolls, but is 41¾ inches between these two points, or at the temples. As the lay beats the filling up into the warp, the warp is spread out at least ⅛-inch at the selvages and the beating action of the lay breaks the tender filling here, which makes a "buttonhole".

Another man tells me that one thing and one thing only will make "buttonholes", namely, friction. Some things he gave for example are shuttle springs that cause the filling bobbins to stick up high, down low, or to either side; choked shuttle eyes; and splintered shuttles.

I hope your readers with weaving experience will discuss this question and tell me whether either of these men is right, and why. If neither one is right, then let's have the experience of some other fellows as to the cause and cure of "buttonholes". I might say our constructions are 68x72, 4.75-yard, and 64x60, 5.35-yard, with 30s warp and 41s filling, but I want weavers to discuss the problem on other constructions also.

CONTRIBUTOR NO. 6163.

Answers "Wash's" Questions for Textile School Graduates

EDITOR COTTON:

I notice that "WASH (R. I.)" has an article in the December issue of COTTON on "Textile School Graduates". I had been wondering what had happened to "WASH" as we have not seen any of his articles for sometime. I think that "WASH" starts more helpful discussion than any person with the possible exception of "M. W. H. (MASS.)" or "R. G. (R. I.)" and his article in the December issue, on page 83, is no exception.

He is right when he says, "I know that what I have to say will bring much criticism upon me." There are quite a few textile school graduates who are in the habit of reading COTTON and no doubt they are going to come back at "WASH." (This won't be the first time that anyone has taken a shot at him, though.)

◆ ◆

WE invite our readers to make use of this department for the discussion of any and all problems arising in the mill or finishing plant. Questions, answers or letters need not conform to any particular style and will be properly edited before publishing. The editors do not hold themselves responsible for any statement of opinion or fact which may appear in this department unless so endorsed. This department is open to all.

◆ ◆

Now, I am not a textile school graduate, but I have wished many times that I were.

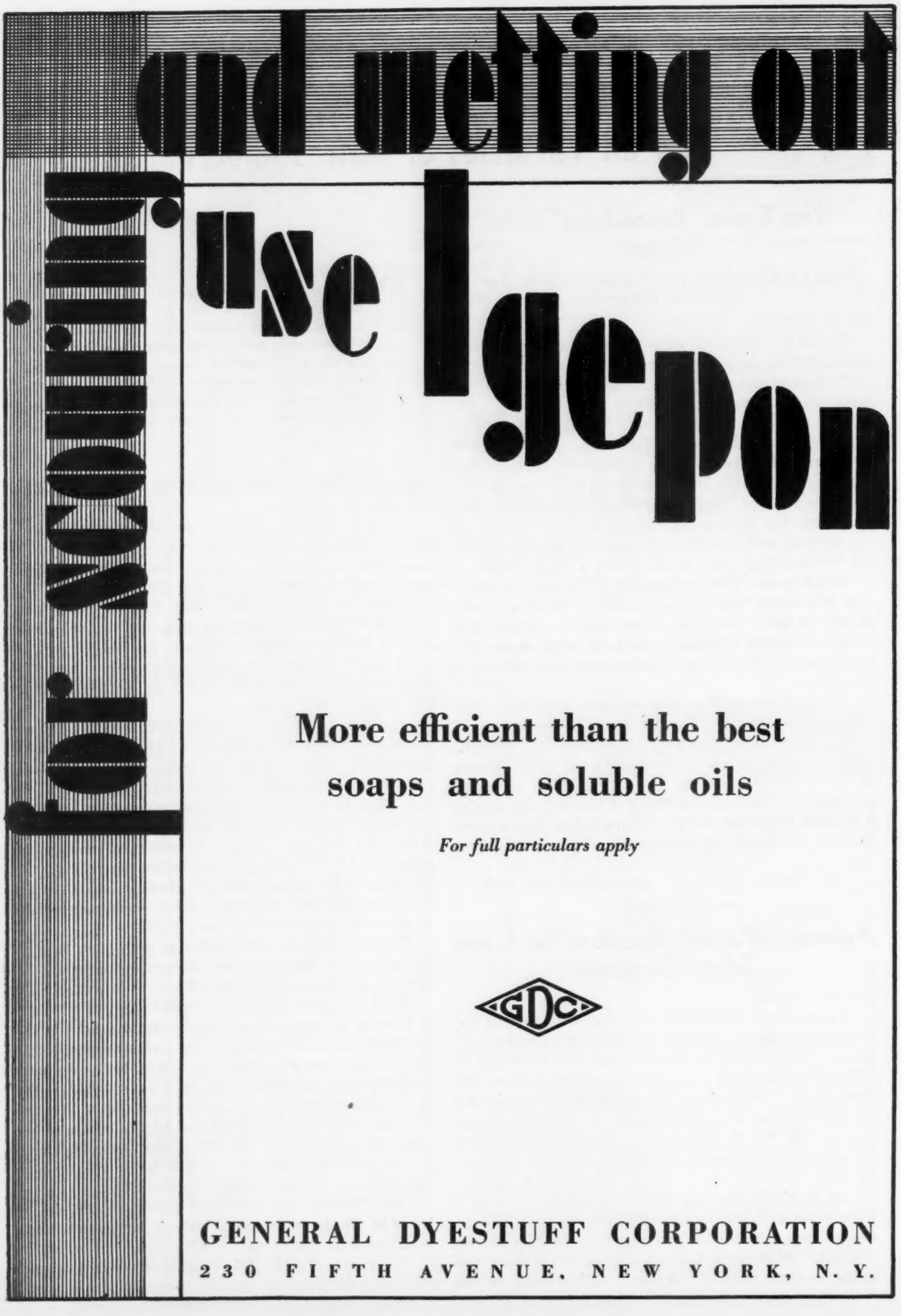
I think any man who has had the benefit of a good textile school training has the advantage over the practical man and believe that with a reasonable amount of practical training that the textile school man is better qualified to handle the bigger job. I don't mean the day after they graduate that they step into an overseer's position, and I do not believe that this happens very often.

I happen to know of a certain man who is what we would call a wizard in regard to fixing any machine in the card room. This man could tell in a moment just what the trouble was with any frame and know just what to do to remedy it, but if he were asked to run a new hank roving that was new to the mill, with a specified amount of twist, he would, after a lot of guess work and waste, get somewhere near right. On the other hand, a textile school graduate would figure his gears and nine times out of ten would come within one tooth either way of being right.

You will find at every mill men who have been in the mill all of their lives and are good practical men, but are not made overseers. Why?

In this day of such keen competition you have got to have at the head a man who is qualified both in the practical and theoretical phases; and whereas, a few years back when you went into a mill, if the overseer could fix every machine in his room (and would do so) he was considered to be a cracker-jack, today the man who can supervise the fixing, and let the men who are supposed to fix do so, and spend more time trying to improve the work and save money is the up-and-coming overseer and the future superintendent.

Now "WASH" has submitted some questions in his letter in the December issue, which he says that any practical man could answer with ease, and which he doubts that a textile school graduate could answer without quite a bit of trouble. I would like to quote



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just a brief answer that a textile school graduate gave when he was asked for his opinion.

"WASH'S" first question was, "The breaker lap is larger in diameter at one end, although the lap rack and drafts are in perfect condition. What causes the lap to be larger at one end?"

This graduate's answer was, "By looking at the screens and noticing how the cotton is being blown against them will soon show you the trouble."

"WASH" next wanted to know, "On cards we have a very high speed doffer and we are making a great amount of waste due to the webs at the front of the card breaking down continually. Is the cause in the comb setting, position, speed, or what?"

The answer given me on this was, "The comb being set too far away will cause the web to follow the doffer. Also, too high or too low will cause the web to break. A little thought here would overcome this."

"WASH'S" third item was, "On drawing frames some days we have a tight web between the front drawing rolls and calender rolls. Then the next day they run very slack. What causes this?"

The answer was, "Weather".

"WASH" submitted in closing the following query:

"On a fly frame we have a taper of 27 degrees that causes the roving to run over and under. We have no taper gears on hand to change the taper, but must remedy the trouble. How is this done?"

The textile man's answer was, "Change the lay gear".

Is he right, WASH?

CONTRIBUTOR No. 6195.

Another Comment on the Comber Discussion.

EDITOR COTTON:

Recently I had the opportunity of going back over the combing argument between "M. W. H." and "R. G." which you have been publishing in the "HOW OTHER MEN MANAGE" department of COTTON. It is too bad that "CONTRIBUTOR No. 5070", who started it all with his questions in the September 1931 issue, did not state fully his settings when asking his questions.

I think that "R. G. (R. I.)", in the December 1931 issue, answered the question about the top comb striking the nipper knife correctly. In fact, I agree with all of "R. G.'s" articles.

I hope that no one has followed the advice of "M. W. H." as to filing the blocks on the nipper stands in order to get the cushion plate in line. I am surprised that the mill officials would allow him to do this. It is not necessary. Since 1905, the Model C, D, and D-2 combers, as they were placed on the market, were installed in the mills with the cushion plates lined up all right. What is the trouble with "M. W. H." that he cannot line up his cushion plates without filing the blocks on the nipper frames?

When the comber is running, I have seen the web picked up in the sliver pan, and raised two feet above the creel rods, the man having to stand on the chair to do this.

Q. E. D. (R. I.)

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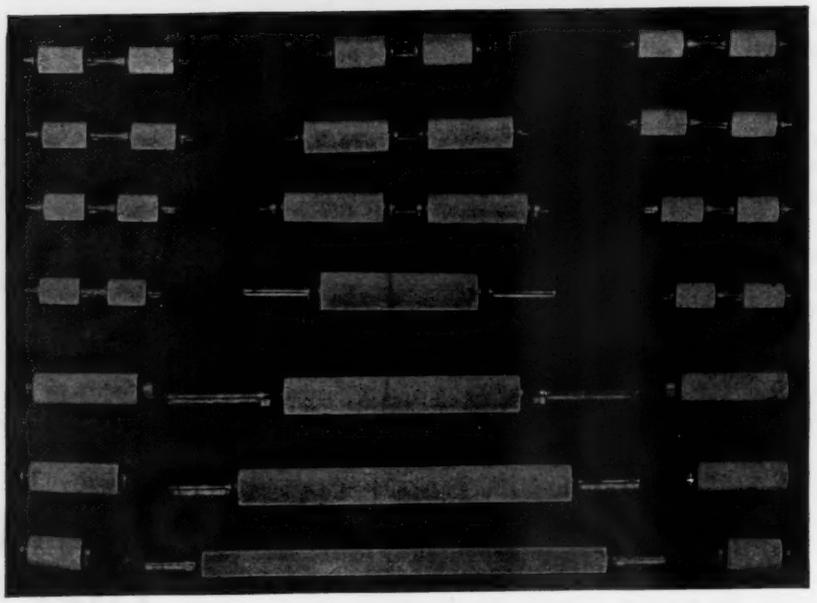

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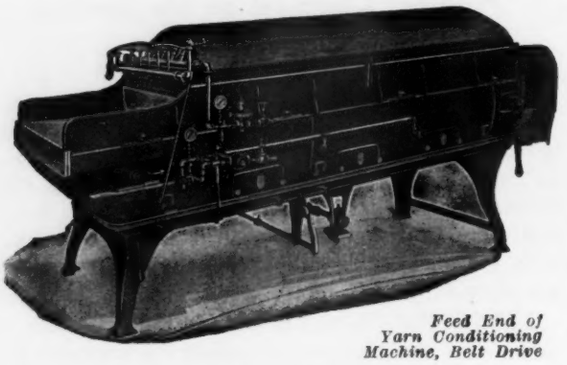

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In Behalf of the Cloth Room.

EDITOR COTTON:

Having read with much interest some of your articles on cloth rooms, I would like to come to court with a few words in behalf of this department.

The poor old cloth room always catches the devil. A lot of people seem to think that it is just a room where the goods merely pass through on the way to the warehouse, and that just anybody can run this department. If someone comes along that isn't able to run a job elsewhere, lots of time they are told, "Go to the cloth room, that's easy work." They think all the cloth room help has to do is to look nice and dress nice. Where they get all those funny ideas I can't see to save my life. Let them work in one awhile and see if they don't change their minds. I consider a cloth room just as important as any other department and I say that the help there should be paid as well in proportion.

A poorly organized cloth room can certainly cost a lot of money and hurt the reputation of the goods with the buyers, causing a lot of orders to be lost. The card room can go ahead and run the cotton and pass the work on to the spinner; the spinner can do likewise and pass it on to the weaver; the weaver does the best he can with it and it comes on to the cloth room, and here all their bad work and mistakes are supposed to be caught and to go no further. Probably just a few officials are the only ones who know about the other departments' carelessness, but just let it get passed up in the cloth room and see who all knows about it—everybody from the buyers on down. Then is when the poor old cloth room overseer catches it for fair.

Of course he is in a particular place. He must try to cut and grade the cloth so as to get as many firsts as possible and also not take too much risk so as to keep down complaint. He can throw away money by letting anyone cut a piece wrong. If every piece were cut several inches from the defect, how many inches would be thrown away in a day? Each piece should be cut right against or through the defect. Then when a stitcher boy sews his seams too far from the end, that has to be torn off and that is all waste. The press man can cut his burlap and ties too long for every bale, and all of that is wasted.

So I say, in watching all of these little waste makers and cutting them out, a cloth room overseer can save his salary, and if he does that, his department should be recognized just as much as any other department, and the cloth room should not be thought of as just a rest room or a loafing place or a place for the invalids to work—but it should be considered as a room of importance, so important that no well organized outfit can afford to ignore it.

CONTRIBUTOR NO. 6224.

S. T. A. Meeting May 26-27, at Charlotte.

The 25th anniversary meeting of the Southern Textile Association will be held at the Hotel Charlotte, Charlotte, N. C., on Friday and Saturday, May 26th and 27th, it is announced by D. H. Hill, Jr., secretary. It is planned to have suitable celebration of the anniversary.

THE landed Dutch gentry of Peter Stuyvesant's New York would have regarded a cotton boll with intelligent curiosity but little interest. Cotton could not, and cannot, be successfully produced in New York State. Yet in 1770, three bales of cotton were shipped from New York to Liverpool; and after the cotton gin made its appearance in 1793, New York's importance as a market for the South's chief crop steadily increased.

The explanation lay to the north of the city proper: New York was the major concentration point for cotton shipped from Mobile, Charleston, Wilmington and other southern ports to the mills of New England. As a consequence, New York erected a machinery for handling the crop and for financing it, so that the expansion of southern cotton production was matched by the growth of New York as a cotton market. Finally New York became the third export port for cotton in the United States.

The southern migration of the New England mills and the comparatively recent innovation of southern deliveries on futures contracts have more or less limited New York's development as a spot cotton market. Nevertheless the city remains of prime importance to cotton farmer, cotton merchant and cotton mill. The reason is twofold: first, by far the greater portion of the American crop—whether it is stored in the South, in Europe or in Asia—is financed by New York; and second, the New York Cotton Exchange, opened in 1870, offers the broadest futures market in the world, and the hedges bought and sold in New York exceed by many times the actual crop.

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The Care and Operation of Drawing Frames.

EDITOR COTTON:

My last article (page 66, November 1932 COTTON) was on the card, so taking the card room processes in the order that they follow through the mill, this one will follow suit and discuss drawing. I shall endeavor to give some practical pointers, as well as my general ideas, on this often-neglected process. To begin with, I will say that I prefer a four-delivery drawing frame, 12-inch coilers, spiral gears, and metallic rolls, although I am at present experimenting with cork on the first and second top rolls and may possibly like them better.

It was once my "misfortune" to run a card room equipped with leather top rolls in the drawing frames. Anyone who is familiar with leather top rolls will, I believe, agree with me that if the formula for making up the varnish for these rolls is not just right, or if they failed to dry between Saturday noon and Monday morning, then Sherman was all wrong about war—and that he should have had some of this experience. However, once the happy medium was reached, the drawing would produce beautiful work.

If I have the correct conception of what is really expected of a draw frame, it is this: to draw out, straighten or attenuate, and parallel and even through this process the mass of fibers fed into the back roll of the frame.

The reader may think that I have overdone myself in the foregoing paragraph by using so many different words that have practically the same meaning, but I use them because they are in everyday use in the mill, one man using one or another, and another man using a different one; then too, they are more or less technical phrases and I think that if we are to know the mill game it is well for us to know the mill language.

Now that we understand each other and are on a common ground as to the draw frames, you perhaps have this question in your mind—"What is the relationship between these rolls, coilers, and gears that this man speaks of in the first lines of this article?"

Let me answer in the order in which these items have been presented. I prefer the 4-delivery draw frame, because it is less susceptible to vibration, is more rigid, and my experience has been that a more even tension can be secured with a 4-delivery frame than with one of six deliveries. Should there be vibration in the drawing frames, cut sliver will very likely result; even though it is not prominent, if it is examined carefully it can be seen. Rollers in a vibrating drawing frame cannot produce even work.

As a test of this, take the frame that vibrates and break the end between the delivery roll and the trumpet, hold the end in one hand, and catch the belt shipper with the other hand, working both simultaneously. Shift the belt and pull the end up and away for an arm's length. Now carefully lower the sliver (which now looks more like the web at the card) until the upper part rests on the calender rolls and the lower part hangs down between you and the can. This will give a dark background for the sliver and it will bring out the imperfect work more clearly, showing cut places, flakes or uneven drawing.

Next come the coilers, and 12-inch coilers are now, I believe, standard equipment, yet there are some of the smaller ones left, and for the benefit of all, I made the statement in order that none might be confused. It was agreed I believe that the 12-inch can is more evenly "built", has less tangled work in the bottom and at the same time holds more stock.

I prefer spiral gears because of the practical elimination of "backlash" which has a very destructive effect upon the drawing stock. These gears will last longer, they do not chatter or vibrate, and are just as easy to set up.

Now, as to the rolls, metallic rolls are credited with having a longer and greater drafting power, because of the meshing of the flutes, which actually increases the diameter of the rolls. They give less trouble than leather rolls for several reasons. One is that they do not require varnishing. Another is that they do not lap up as badly. Another is that if we get a little too much oil on the metallic roll, we can wipe it off, and the roll is not damaged, whereas this would usually spoil a leather roll. However, don't forget that my experiments with cork on the first and second top rolls may convert me over to another faith.

Usually we find some local condition that greatly influences our roll setting, but I think I am right in starting with the following settings even if I have to vary them later: Delivery to second roll, ⅛-inch over staple; second to third roll, ¼-inch over staple; third to feed or back roll, ⅜-inch over staple. This is for approximately a 45-grain sliver. If the weight of the sliver were changed the setting would be changed between the second and third, and the third and back rolls, accordingly, having the delivery to second roll setting as is.

All of these settings are of course considered as from the center of one roll to the center of the next roll.

A draft of 5.5 to 6 is not bad for breaker or first process drawing and 6 to 7 is not bad on finisher or second process drawing. The fact is, I believe that the old hobbies we have had about draft are riding for a fall. Personally, I will not be surprised to see a draft of 10 or 12 or more on the present type of drawing.

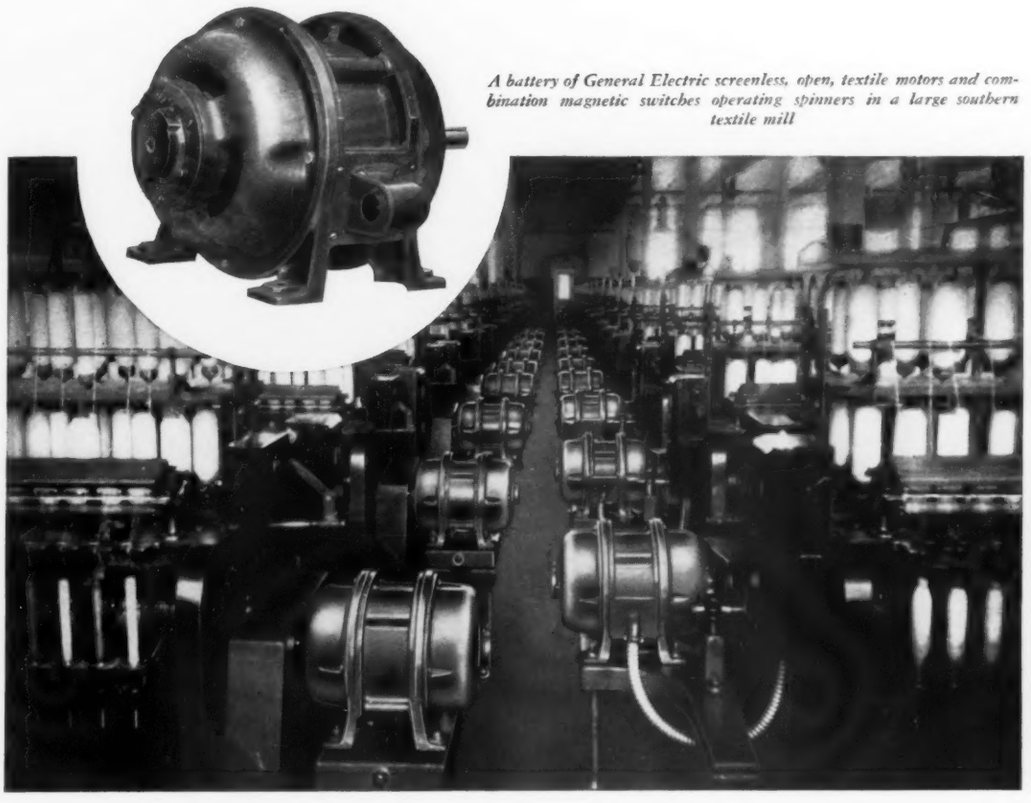
Drawing drive belts should be kept tight enough to insure a steady even pull. The front roll r.p.m. generally runs from 125 to 350. I think that where it can be done, consistent with production and quality, about 225 r.p.m. is a fair speed for the front roll.

The carrier or intermediate draft gears on the foot end of the frame should always be made of steel. Cast-iron gears here are likely to chip or break because of the fine pitch of the gear, because of the necessary heavy load, and because they are of cast-iron.

Above all things, set these gears right; if they are too deep, cut sliver will result, and if they are too shallow, a worn-out gear results and bad work that gradually slips up on a fellow.

Spoons should be so adjusted that the frame will stop when the end running out is about half way between the back roll and the spoon. A sluggishly operating spoon makes singlings; be they ever so short,

How G-E screenless, open motors will cut your maintenance costs



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they are still singlings.

The creels should be set in so that no ends are crossed and the individual can should set in as its predecessor runs out. The habit of "cutting cans", "topping cans", etc., is next to foolishness. Each time an end is put up there is a place to show for it, no matter how well the job was done. Suppose, for instance, that we have a 4-delivery frame with six ends up in the creel to each head. We have 24 cans. Now suppose that each can was "cut" or "topped" when set in and again when it is advanced the first time towards the frame; and that is not an unusual number of times for a can to be "cut" or "topped", I have seen it done three and four times.

But getting back to twice with each can, that gives us 48 extra piecings in the creel, and we have 24 of these frames which gives us 1,152 extra piecings in each creeling of the 24 frames.

Now, suppose that the creel run out every seven hours and the mill operates 55 hours a week which is approximately 7.9 creels per week. Multiplying the 1,152 extra piecings for the one creeling by 7.9 for the entire week, we have around 9,101 extra piecings on drawing alone. That looks big, and it is big—too big to be permitted—and besides it is useless and results solely from the drawing frame hand's idea that he or she is getting by with less work and making more rest periods. If we could have a positive identification of these extra piecings, in the cloth, it would be astounding.

Clearers should be kept clean and not have any set time for picking. They should be washed with gasoline occasionally to remove the oil and dirt. This can best be done by having an extra set of clearer cloths and changing an entire frame at once. Wash and repeat until all have been gone over.

A very good idea for preventing those little laps from forming on the ends of the rolls between the flutes and the collars is to tack a strip of clearer cloth across the ends of the clearer board. This strip should be the width of the space between the flutes and the collar, and the strip of cloth should be tacked only at each end. Try it and this will do away with that trouble of laps.

Rolls should be thoroughly cleaned and scrubbed each week and the bearings on the top rolls cleaned out at the same time.

Rolls should be inspected several times each day for dirt, seed, belt dressing and other foreign matter that is likely to form or become lodged in the flutes and cause all manner of bad work. Where those things are found between times for roll cleaning, they should be removed with a wooden stick made similar to a pencil. Rolls should never be cleaned with a metal instrument.

For the reasons mentioned, it is well to have drawing equipped with individual drives, thereby eliminating counter pulleys and belts overhead.

When the overhead equipment over the draw frames is to be blown down, brushed or otherwise cleaned, the frames and creels should be covered with a cloth covering made from a fairly light weight cloth, say about 4.75-yard goods.

I recommend the following procedure:

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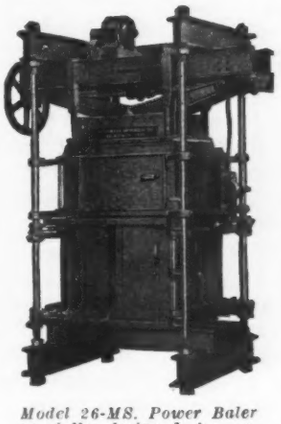

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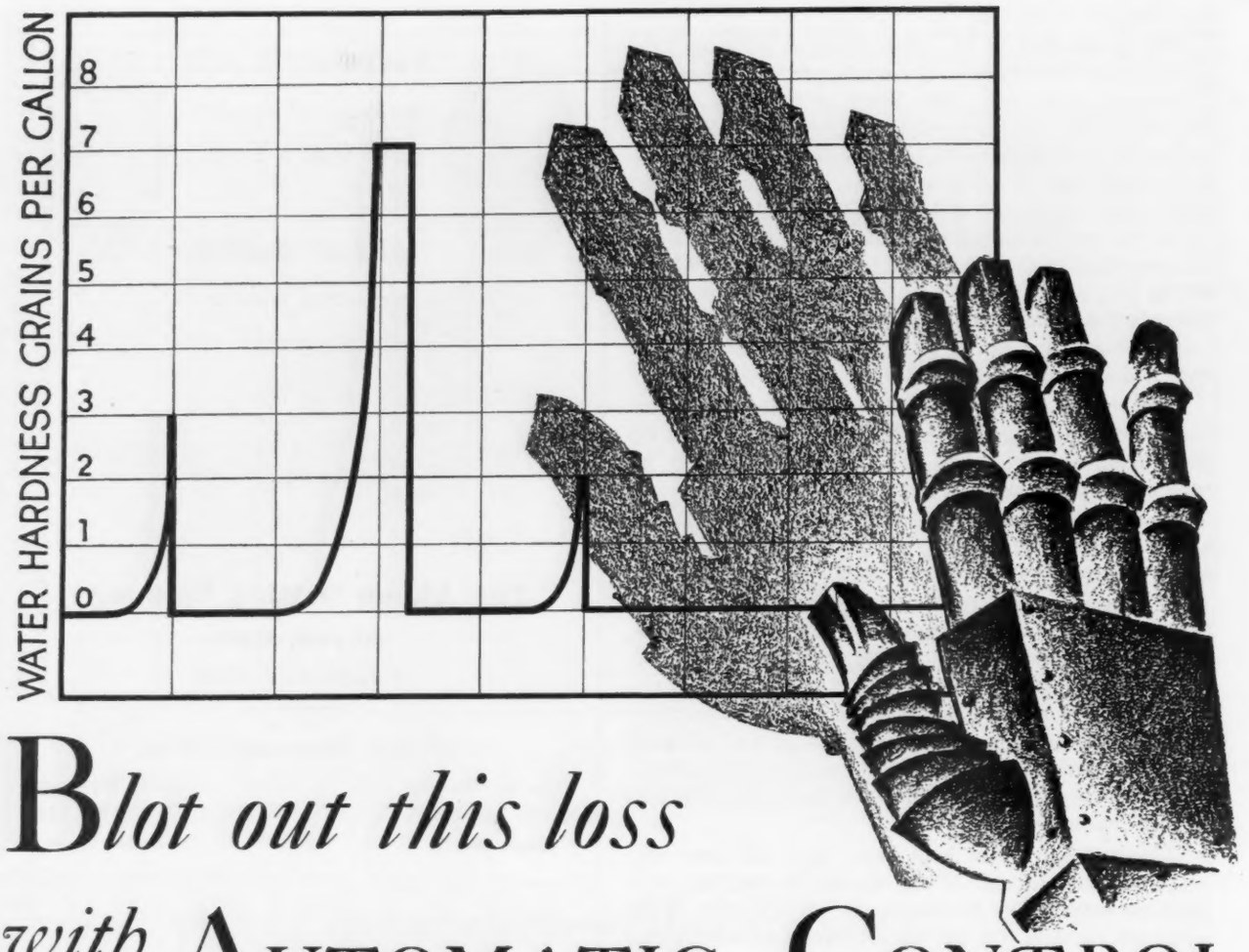

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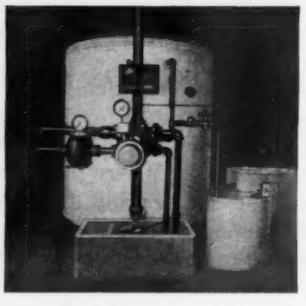
No varying degrees of hardness in your water supply. This new fully Automatic Softener keeps your water uniformly soft.

WITH manual operation of zeolite water softeners, the oversights and errors inherent in mankind are liable to occur. With Automatic Control, they are eliminated. And ended, too, are the losses caused by occasional "shots" of impurities in the treated mill water supply.

Water treatment works wonders, but for full efficiency it requires accurate control. The substitution of mechanical precision for the fallibility of human operation actually saves substantial amounts of money.

The essence of Permutit's Automatic Control is the single valve, motor-operated. By being mechanically rotated through a series of positions, the softener is cut out of service, backwashed properly, regenerated adequately, and returned to service, all without attention of any sort. Read the seven advantages at the right.

Automatic Controls can be applied to any existing equipment. Conversion costs are moderate and quickly liquidated by the savings made.



Write for full details—no obligation, of course. The Permutit Company, 440 Fourth Avenue, New York City.

7 POINTS OF SUPERIORITY

1. **Most efficient zeolite water softener ever built.**
2. **All operations automatically carried out under precise control.**
3. **Completely softened water—no overrunning, no under-regeneration.**
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7. **Automatic features can be applied to any existing zeolite water softener.**

SAVE *with Soft Water*

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Water Treating Equipment

PAYS FOR ITSELF

ends twice daily; bearings on coiler head shaft once daily; calender roll bearings once daily; can table bearings and upright shaft steps once weekly; coiler heads should have a drop or two of oil when the frame is cleaned each week.

Draw frames should be lined, leveled and otherwise completely overhauled every six months.

The section man should be instructed in methods of producing good work. The overseer should go around with him and he himself should likewise instruct the drawing hands as the overseer instructs him. Then the overseer should wake himself up occasionally, two or three times a week, and see for himself that this is being done.

One of the best carders I ever knew went to his drawing frames every morning and afternoon, and stopped them, started each frame, felt the ends of each roll, looked at the work on each delivery and raised the devil if he found anything wrong—he very seldom found anything wrong.

Trumpets should all be of the same bore, not having one of one size and one of another. If the sliver being run requires a 4/32-inch bore trumpet, have that and be sure that none of them are ¼-inch bore and some 3/16-inch bores mixed up with this.

Now, I realize that I have barely touched the surface so far as drawing is concerned, but if these remarks are taken in the spirit in which they are given, somebody will either agree with me or will bless me out through the columns of the "HOW OTHER MEN MANAGE" department, and I would be glad to have either or both things happen.

CONTRIBUTOR NO. 6123.

A System of Comber Inspection.

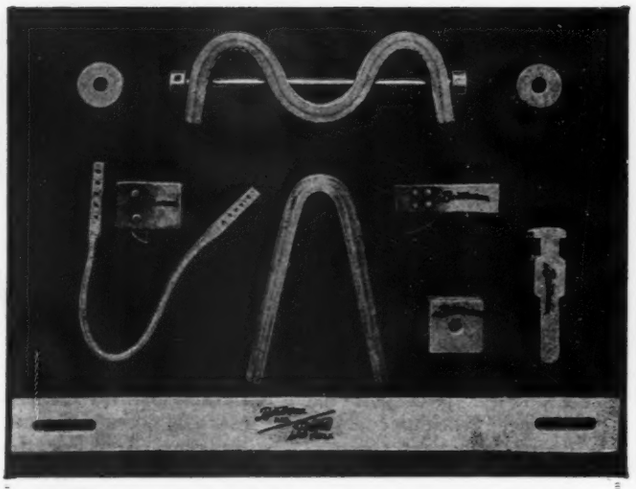
EDITOR COTTON:

I would like to describe for your "HOW OTHER MEN MANAGE" department a system which I use for inspection and maintenance on combers, that may be useful to other comber men in keeping their rooms up to standard.

Every week-end when the combers are stopped I have my comber tenders take out the leather detaching rolls to be varnished, and have them leave the combers in position so that I can see about the middle of the half lap. Later I go around and inspect the half lap, top comb, leather detaching rolls, brushes, etc.—the ones that need raising or reversing are taken out and new ones put in. The accompanying form shows

Comber Inspection—for Week ending_____

Comber Number	Half Lap	Top Combs	Leather Rolls	Brushes	Remarks
1	1-3-6-8	1-8	1-2-3-	OK	Nipper frame dirty
2	2-4	1-3	3-5-6	Raise	Coiler dirty
3	3-6-8	1-7-8	8	Reverse	
4	8	2-4-6	7-8	Raise	Draw box dirty
5	4-7-8	3-4-5	1-8	Raise	
6	6-7	5-6-7	3-5	Reverse	Segment not lined
7	1-4-5	3-5-8	4-8	OK	
8	6-7	4-6-8	8	OK	



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It's this . . they standardize on Bondaron REG. U. S. PAT. OFF. Textile Leathers. These leathers are so far superior to other tannages that when we say you can cut loom leather costs in half by using them, the estimate is a conservative one. As an example . . a certain Southern mill recently used 3000 Bondaron Pickers during a period of 22 months. Before standardizing on Bondaron, they used approximately *12,000* pickers during a like period of time (22 months), all conditions being identically the same! This is only one of countless tests in prominent mills which have proven that Bondaron *Leathers last from two to six times as long as other brands.*

We suggest that you make a test of Bondaron Leathers on your own looms as the best way to *prove to yourself* the tremendous economies possible thru their use.

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The PEROXIDE *that you never see!*

INTO THE R & H Testing Laboratories and Experimental Station every day goes ALBONE* C and SOLOZONE* that the trade will never see. For the peroxide that goes in here is to be deliberately broken down and experimented with for your protection.

Chemists and practical bleachers subject these peroxides to tests far more severe than any encountered in actual use. Under strict chemical supervision they analyze, break down, put to use these samples. And they do this with just one thought in mind—to make certain that the peroxide you get meets high, rigid, ever-tightening standards.

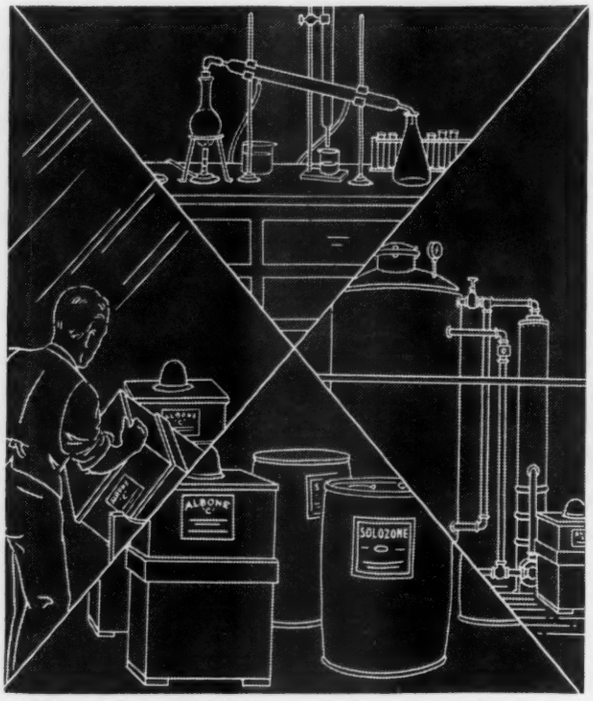
Peroxides must be full strength so that you can be certain of getting the full amount of active bleaching oxygen. Control and shipping tests show that every container of ALBONE C and SOLOZONE leaving our plant meets our high specifications on strength.

Peroxides must be stable in storage so that they will contain the correct amount of active bleaching oxygen when put to use. Accelerated decomposition tests show that they retain full strength for long periods of time under proper conditions of storage.

Peroxides must be of unvarying quality so that bleaching baths can be readily made up to predetermined strength. Our laboratory tests show that every shipment of ALBONE C or SOLOZONE is of the same quality as that shipped a week ago, or a year ago.

Peroxides must give completely satisfactory results so that you can be certain of always getting the same uniform bleach. Continual tests in our Bleaching Experiment Station show that R & H Peroxides produce high quality bleaching at low cost, when used in the prescribed manner.

The peroxides you never see, and the tests to which they are subjected, form the basis for our claim that we provide customers with high quality peroxides of guaranteed specifications, together with up-to-the-minute information on the most economical methods of use.



Are you interested in peroxides of guaranteed specifications? Then write for further information and prices on ALBONE C and SOLOZONE.

ALBONE* C is R & H Hydrogen Peroxide—100 volume electrolytic—manufactured by du Pont. It contains approximately 13% by weight of available bleaching oxygen. Prompt shipments can be made in any desired quantity from stocks carried in principal distribution centers.

SOLOZONE* is R & H Sodium Peroxide, manufactured by du Pont. It contains 20%+ of available bleaching oxygen. It, also, can be shipped promptly in any desired quantity from stocks carried in principal distribution centers.

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how this inspection is recorded.

On the following Monday, when all of the combers are running, the third hand (section man) goes over them with a list prepared from this inspection report, picks all of the half-laps that need picking, and some that should be changed. Then he goes over the top combs, leather rolls, brushes, etc.

In this way, if a man has a hundred combers, he has a chance to see a part of every half lap in the room every week, and he knows just how he stands. Without such a system, if a man has a system to pick eight combers a week, if he has 96 combers running, he would not be able to see any set oftener than every three months.

A. A. M. (R. I.)

Some Carder's Ideas on Card Settings

EDITOR COTTON:

I am replying to the question of "CONTRIBUTOR No. 6172" on card settings, on 1 1/16-inch Low Middling cotton, making a 55-grain card sliver, with 428 r.p.m. licker-in speed, 165 r.p.m. cylinder speed and 11.5 r.p.m. doffer speed. The settings he gave were:

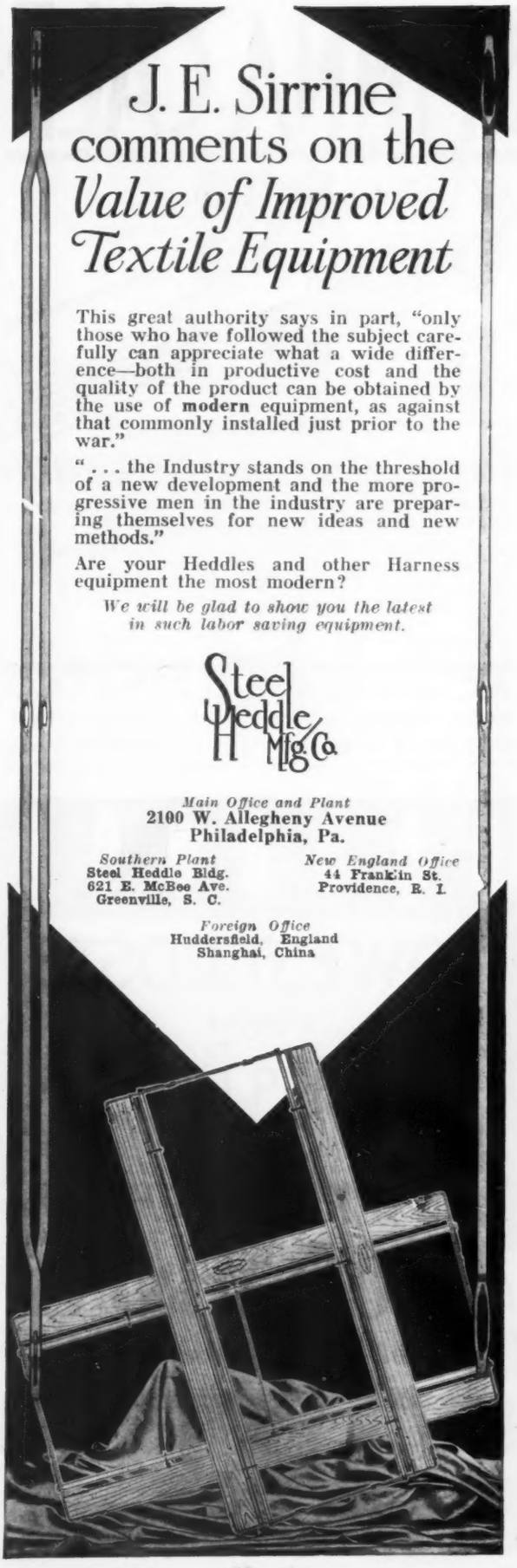
Feed plate to licker-in, 7
Licker-in to cylinder, 10
Back plate to cylinder, 29
Mote knives to licker-in, top, 12
Mote knives to licker-in, bottom, 10
Back screen to cylinder, 22
Middle screen to cylinder, 34
Front screen to cylinder, 5/16-inch
Doffer to cylinder, 7
Flats to cylinder, 10, except the front stand, which is set to a 17

Now, I am something of a radical when it comes to setting cards, and I do not believe in any hard and fast rule for setting them. If your settings are giving the work you desire, why change them just because someone else is using a different setting? What you want is the work done properly, so be satisfied when you get it, even if no one else uses the same settings.

Considering all of this, I would like to suggest some settings for trial; if they do not improve the work, don't use them. I have obtained good results from them on practically the same class of work, but that does not mean that they will give someone else the same results, due to small differences that mean a great deal in the final results.

The speeds given are according to usual practice or close enough for practical purposes. Using the short rule for production (202 × r.p.m. of doffer × grains sliver) gives a production of 128 pounds per ten hour day which is also well within the average for this work.

Now, as to the settings, I would recommend some changes. If an extra heavy (over 14-ounce) lap is not being used, I certainly would not use such a close setting as a 7 for the feed plate to the licker-in. I believe that a 10 or even a 12 would give better results and would not be nearly so likely to damage the stock. I have used a 7 at this point in cases where the feed plate had been damaged, to prevent the damaged part being too far off, but did not get good results; so I had the plate repaired and replaced as soon as possible.


J. E. Sirrine
comments on the
Value of Improved
Textile Equipment
This great authority says in part, "only those who have followed the subject carefully can appreciate what a wide difference—both in productive cost and the quality of the product can be obtained by the use of modern equipment, as against that commonly installed just prior to the war."
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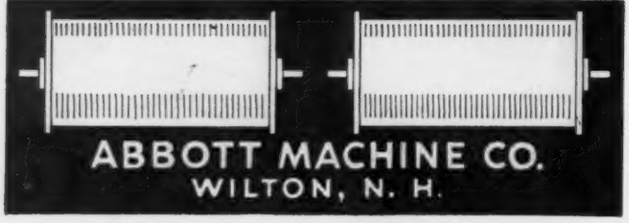


ABBOTT MACHINE CO.
WILTON, N. H.

I have never used his setting of a 10 between the licker-in and the cylinder; I always used a 7 or in some cases a 5, finding that the 7 gives the best results. I firmly believe in close settings to counteract the effect of the centrifugal force of the revolving parts. The cotton on the licker-in and cylinder will naturally tend to lift away from these parts due to this force, and close settings will prevent a lot of this from happening. Or if it does happen, as soon as rolling is started it will be combed flat and parallel again immediately. For this reason I would set the back plate to either a 12 at top and 17 at bottom or not over 17 at top and 22 at bottom (instead of his 29) so as to cause the work to start around the cylinder as close to it as possible. Also, I would set the top to a 10 all the way around; if I varied any on the front stand I would draw it and the next one up to a 7.

It is my belief that no one knows very much about the actual workings of a card, myself least of all. One man's opinion is as good as another's, but for my part I would say that the loading at the top and curling caused there is not caused by the setting of the top in this instance, but rather by setting too far off on the back plate and cylinder screens, allowing the cotton to rise too far above the surface of the cylinder. This naturally would load up any part that came in contact with the work. Also it would cause more fly to be taken out by the screens. I would recommend setting the bottom screen to 3/16-inch at the front, or to the button on the gauge, and 29 or a full three-leaf gauge at the middle. I do not set at the back of the bottom screen, that is, at the setting point under the card; I set the lip of the screen to a 10 and not over a 12 and as high up between the licker-in and cylinder as possible, so as to close up all of the space possible and prevent the cotton from lifting away from the cylinder. This one place will do more to keep fly out from under the card than any other setting. And this is the only reason that I can see that it does so. Try this sometime: do not change any setting except to pull the bottom screen up as high as possible between the licker-in and cylinder, and to a 10 on the cylinder, and see how much difference it makes in the fly under the card. If anyone can give another reason for this, I would like to hear about it.

The setting at the mote knives, as given, are all right. I believe, however, that the angle of the knives means more than the gauge to which they are set. However, I have gone into this in another article. His settings of the licker-in screen are not given. The lip of this screen should be well down out of the path of the air currents set up by the licker-in so as to draw them back up around the licker-in to prevent a large amount of fly from whipping out at this point. The bottom of the screen should be set to a 7 or not over a 10, and the top not over a 7.

You will see from what I have said that I favor close settings. Also, that I set each part or series of parts a little open at the point the work enters and gradually close up so as to hold the work and the air currents close to the part that is carrying it, to prevent the stock from rising and curling. I also set the delivering end close so as to allow the work to be presented to the following parts in as thin a sheet as

possible so the next part will not have to be so far off to catch all of the work and air. Above all things, watch the air currents in a card; when you control them you control the card, and not before.

CONTRIBUTOR No. 6154.

EDITOR COTTON:

Your "HOW OTHER MEN MANAGE" department is a good place to go for help when we are in trouble, and we are glad also that we can try to make that department of help to others.

I notice the question of "CONTRIBUTOR No. 6172" with regard to card speeds and settings. He does not give the make of his card and does not say anything about having any particular kind of trouble, but I suspect he has neps.

This man said he is running 1 1/16-inch Low Middling cotton, making a 55-grain sliver, with the following speeds: Licker-in, 428 r.p.m.; cylinder, 165 r.p.m.; and doffer, 11.5 r.p.m. Then he gave his card settings and asked for discussion on them. I find that "CONTRIBUTOR No. 6172" is not carding any too much. With regard to his settings, beginning at the back of the card I notice that he is setting the feed plate to a 7 gauge, which I believe is entirely too close for most cards and I would suggest a 15 gauge as being much better, and as producing a better breaking strength. I set my feed plate to 17 gauge on one-inch cotton and have very few neps.

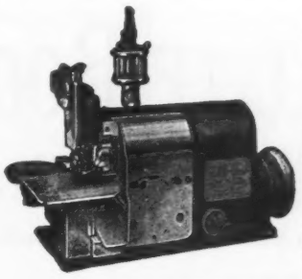
His settings of 12 at the top and 10 at the bottom on his mote knives are good, but I would set the licker-in to the cylinder to a 7 gauge instead of a 10 gauge, which is what he is using. He sets his back plate to a 29, which I think is correct, and of course we all set our screens to give the desired amount of fly under the cards.

I notice that this man is setting his flats on a 10 gauge, and this is correct, but on his front stand he uses a 17 gauge which I do not agree with and would not recommend that he practice. I find out of many years of practical experience that cards are a great deal like human beings; they can't all be treated alike but must be treated right in order to get the best results. After all, the big thing about cards is the card grinder himself; he must be a man who takes pride in his job and tries to make every card do its best; he becomes acquainted with his cards and learns how to set each one on his section—all can't be set alike and good results secured.

Going back to the flat setting: the standard strips are 18 grains per flat, and for best results I would not suggest going above that amount; and if we set our flats to a 12 gauge at the back stand and to a 10 gauge at the front stand, and not make strips too heavy, we would get good carding.

I believe that the card is imposed on in this day when there are so many different machines for cleaning the cotton before it reaches the cards. We ought to have the cotton in fine shape before it gets to the cards so that they will only have to put the finishing touches on it. Cards should be kept sharp at all times and not allowed to get dull and run that way at all, as the sliver from one dull card can spoil the work from five sharp ones, and if cards make neps, it is the dull ones that do it.

CONTRIBUTOR No. 6176.



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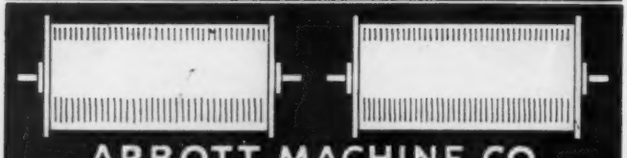

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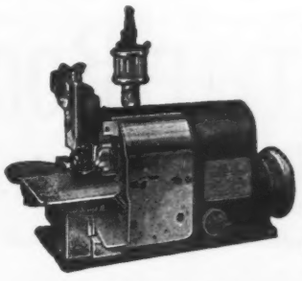
His settings of 12 at the top and 10 at the bottom on his mote knives are good, but I would set the licker-in to the cylinder to a 7 gauge instead of a 10 gauge, which is what he is using. He sets his back plate to a 29, which I think is correct, and of course we all set our screens to give the desired amount of fly under the cards.

I notice that this man is setting his flats on a 10 gauge, and this is correct, but on his front stand he uses a 17 gauge which I do not agree with and would not recommend that he practice. I find out of many years of practical experience that cards are a great deal like human beings; they can't all be treated alike but must be treated right in order to get the best results. After all, the big thing about cards is the card grinder himself; he must be a man who takes pride in his job and tries to make every card do its best; he becomes acquainted with his cards and learns how to set each one on his section—all can't be set alike and good results secured.

Going back to the flat setting: the standard strips are 18 grains per flat, and for best results I would not suggest going above that amount; and if we set our flats to a 12 gauge at the back stand and to a 10 gauge at the front stand, and not make strips too heavy, we would get good carding.

I believe that the card is imposed on in this day when there are so many different machines for cleaning the cotton before it reaches the cards. We ought to have the cotton in fine shape before it gets to the cards so that they will only have to put the finishing touches on it. Cards should be kept sharp at all times and not allowed to get dull and run that way at all, as the sliver from one dull card can spoil the work from five sharp ones, and if cards make neps, it is the dull ones that do it.

CONTRIBUTOR No. 6176.



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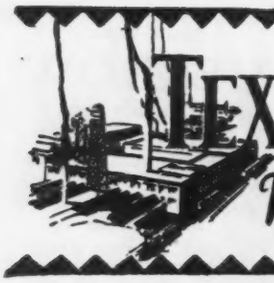

TEXTILE BOOKLETS *Worth Writing For!*

The booklets or catalogs briefly mentioned below may be obtained by any readers of COTTON who will write to the Company issuing them or to COTTON, Grant Bldg., Atlanta, Ga.

91. **Illustrated Buyers' Guide and Catalogue**—Of interest to every dyehouse executive, not only telling what dye house equipment is available in Monel Metal but also where to get it. The International Nickel Co., Inc., 67 Wall St., New York, N. Y.

92. **Silicates of Soda**—A review of the properties of silicates of soda and their various uses. Philadelphia Quartz Co., 121 S. Third St., Philadelphia, Pa.

93. **Metso** — Describing this industrial cleanser which has wide use in industrial cleaning of metals, floors, etc., and is used in kier boiling, silk and rayon degumming. Philadelphia Quartz Co., 121 S. Third St., Philadelphia, Pa.

94. **New Development by Onyx**—Eight-page booklet describing and giving uses of new developments in sulphonated aliphatic compounds . . . called Aliphatic Ester Sulphate and Glyceryl Sulphates. Onyx Oil & Chemical Co., 15 Exchange Place Jersey City, N. J.

95. **Onyx Processing and Finishing Compound Catalog**—A thirty-two page booklet listing and describing entire line of processing and finishing compounds, covering every process on all types of fabric. Onyx Oil & Chemical Co., 15 Exchange Place, Jersey City, N. J.

96. **R. & H. Non-Flammable Solvents**—describing the charcteristics and many uses of non-flammable solvents. R. & H. Chemicals Dept., E. I. duPont de Nemours & Co., Wilmington, Del.

97. **Suggestions For The Modern Silk and Rayon Throwster** — describing the various uses for Laurel Brand Products and giving valuable suggestions in silk-soaking, degumming, dyeing, sizing and finishing. Laurel Soap Mfg. Co., Inc., Tioga, Thompson & Almond Sts., Philadelphia, Pa.

98. **Saving Labor, Material and Power in the Textile Industry.** A 20 page booklet showing the advantages and typical installations of temperature, pressure and humidity instruments and controllers in various processes of textile manufacturing. Foxboro Co., Foxboro, Mass.

99. **Bulletin 177, Temperature Controllers.** 48 page booklet describing and illustrating the various types of controllers, charts, valves, etc., and their industrial uses. Foxboro Co., Foxboro, Mass.

100. **Bulletin 174, Controlling, Recording, Indicating Instruments for Temperatures, Pressures, Humidity, Flow.** 40 page booklet illustrating with installation photographs the uses and advantages of instruments built to meet definite requirements. Foxboro Co., Foxboro, Mass.

101. **Bulletin No. 169-1, Recording Thermometers.** 48 page booklet describing and illustrating how the installation of proper instruments will result in worth-while savings. Foxboro Co., Foxboro, Mass.

102. **White and Light Shade Cotton Fabrics Dyeing and Finishing.** National Oil Products Co., Harrison, N. J.

103. **Throwing Rayon Crepe.** National Oil Products Co., Harrison, N. J.

104. **Warp Sizing.** National Oil Products Co., Harrison, N. J.

105. **Mildew Prevention.** National Oil Products Co., Harrison, N. J.

106. **Cotton System Warp Sizing on Multiple Cylinder Machines**—an analysis of the advantages of this type of machine in making warps of acetate and other synthetic yarns, and spun silk—Charles B. Johnson, Paterson, N. J.

107. **Complete Information on Alemite Lubrication.** Showing how costs can be reduced through proper lubrication. Alemite Corp., 2682 N. Crawford Ave., Chicago, Ill.

1. **Cotton Picking, Carding and Spinning**—Covered by three different catalogs. Picking catalog covers Opening and Picking Machinery; Card Room catalog covers Cards, Combers and Roving Frames; Yarn Machinery catalog covers Spinning, Twisting, Spooling, Quilling and Reeling. By Whitin Machine Works, Whitinsville, Mass.

2. **Pepperell Equipment**—10 page illustrated booklet showing High Speed Warping from cones as adopted by Pepperell Manufacturing Company after thorough experiments, installation and product photographs. Issued by Universal Winding Company, Boston, Mass.

4. **New Methods of Opening Cotton, also "Brown" Automatic Mixing and Cleaning Distributor** — Illustrated booklets showing advantages of Centrif-Air Cotton Cleaning System. Pamphlets also on better picking and carding and pneumatic trunk line cleaner. Issued by Centrif-Air Machine Company, Atlanta, Ga.

10. **Leathers, Textile**—Booklet No. 101, 48 pages. Illustrated. Showing BONDARON Check Straps—Lug Straps—Harness Straps—Pickers—Belting, both round and flat, etc. Horsepower tables and other interesting information. By Charles Bond Company, 617 Arch Street, Philadelphia, Pa.

11. **Whitinsville Rings**—16 page illustrated booklet. Describing ring manufacture, measurements, types, uses. How to determine flange sizes. By Whitinsville Spinning Ring Co., Whitinsville, Mass.

15. **The Powers System of Thermostatic Control**—"Slasher Room is Bottle-Neck of Textile Mill." 18 page illustrated booklet showing importance of proper treatment of cloth in slasher room and advantages of Thermostat over hand control. Also room temperature control illustrations. Issued by Powers Regulator Co., 2739 Greenview Ave., Chicago, Ill.

20. **Bleaching, Dyeing, Finishing and Printing Textile Goods**—70-page booklet containing interesting information on faults and methods in finishing goods, useful tables and definitions. By Bosson & Lane, Atlantic, Mass.

21. **Warp Sizing and Composition of Cotton**—Folder containing reprints of articles carried by textile publications of interest to progressive mill superintendents. By Seydel-Wooley Co., 748 Rice St., Atlanta, Ga.

22. **Tragasol and Its Uses**—Booklet, 60 pages, constituents and properties—Dissolving and preparation—sizing and dressing of yarns—cloth finishing—miscellaneous. By John P. Marston Co., 247 Atlantic Ave., Boston, Mass.

23. **Practice of Rayon Sizing in American Mills, Raygomm, Lakoe Gum**—Three booklets on products for sizing and finishing rayon and other textiles, presented by Stein Hall & Co., Inc., 285 Madison Ave., New York, N. Y.

25. **"Lupogum" and "Monopole Oil"**—Two booklets on textile sizing and finishing products. Jacques Wolf & Company, Passaic, N. J.

28. **Akron Belting.**—Practical Rules and general information for users of belting with belting catalog. By Akron Belting Co., Akron, Ohio.

29. **Continuous Card Stripper**—A 20 page booklet describing in detail continuous card strippers, their advantages, the power required to operate, etc. Saco-Lowell Shops, 147 Milk St., Boston, Mass.

30. **Lubrication of Textile Machinery**—32 pages, illustrated. Data covering the economical lubrication of all textile machines. New York and New Jersey Lubricant Co., 292 Madison Ave., New York, N. Y.

38. **Sleaziness in Full Fashioned Knitting**—Illustrated survey with samples of fabric showing causes of sleaziness and methods to be employed in eliminating it.—By Textile Machine Works, Reading, Pa. (This company also issues parts catalog for Reading full fashioned machine with general information on subject of full fashioned knitting.)

55. **Interpretation of Analysis for the Layman**—An eight page booklet explaining what the various terms used in fatty oil and sulfonated oil analysis mean, enabling the ordinary textile man without chemical education to interpret the various chemical analyses. National Oil Products Co., Harrison, N. J.

58. **Trichlorethylene, Its Properties and Uses**—a forty page booklet showing the properties and uses of Tri, with many valuable suggestions regarding its applications in dry-cleaning, spotting out, scouring textiles, etc. R. & H. Chemicals Dept., E. I. duPont de Nemours & Co., Wilmington, Del.

59. **Vat Colors and Their Oxidation**—A revised edition giving information and methods of the dyeing, printing and Perborate of Peroxide "fixation" of vat colors. R. & H. Chemicals Dept., E. I. duPont deNemours & Co., Wilmington, Del.

62. **Rubber Products for the Textile Industry**—a 40-page booklet giving a wealth of information on the proper selection, installation and operation of rubber belts, together with charts showing horsepower rating, pulley sizes, V-belt sizes, also information on all types of hose and rubber covered rolls used in the textile industry. Manhattan Rubber Mfg. Division of Raybestos-Manhattan Inc., Passaic, N. J.

63. **S-W Paint Standardization Plan**—valuable booklet telling how protective coatings can effect economies in plant operation and maintenance, describing how each surface is finished to best meet its specific needs, giving ideal lighting and sanitary conditions and economies in increased production. Sherwin-Williams Co., 601 Canal Rd., Cleveland, Ohio.

64. **Efficiency and Performance of SKF Roller Bearing Spindles** — A twelve page booklet showing the advantages in power consumption, increased production, savings in lubrication, increased yarn breakage strength to be secured through roller bearing spindles. SKF Industries, Inc., 40 East 34th St., New York, N. Y.

65. **Why Cooper Hewitt Light is Better Than Daylight**—a 16-page booklet explaining in detail the importance of good lighting and the necessity of proper quality as well as proper quantity of light. General Elec. Vapor Lamp Co., Hoboken, N. J.

66. **Dronsfield's Patent Portable Auto-Feed Needle Point Grinder No. 176,** describing a new departure in card grinding—John Hetherington & Sons, Inc., 250 Devonshire St. Boston, Mass.

69. **Monel Metal Equipment for the Textile Industry**—a 50-page buyer's guide and catalog with more than 100 illustrations of various items of monel metal dyehouse equipment. International Nickel Company, Inc., 67 Wall St., New York, N. Y.

72. **The Merrow Butted Seam**—A 16-page booklet defining and illustrating the Butted seam, describing its properties and outlining some of the advantages to be gained by its use in textile fabrics. The Merrow Machine Co., Hartford, Conn.

73. **New Reeves Catalog No. 99**—A treatise on efficiencyy speed control—including valuable information of special importance to textile industry men and production executives outlining advanced methods of speed regulation. Reeves Pulley Company, Columbus, Indiana.

75. **The Facts About Armstrong's Seamless Cork Cots**—A helpful book containing plain facts, cost studies based on actual mill records, expert analysis, complete details on the advantages of Armstrong's Seamless Cork Cots. Armstrong Cork & Insulation Co., 923 Arch Street, Lancaster, Pa.

77. **Bulletin S 200**—Illustrating and describing the new Reeves Variable Speed Drive for spinning and twister frames, explaining its many distinct advantages, and giving charted results of exacting tests. Reeves Pulley Company, Columbus, Indiana.

78. **Booklet L 1289 A—Loom Motors and Control**—giving details of the low installation, operating and maintenance cost of Westinghouse Loom Motors. Westinghouse Electric & Manufacturing Company, Room 2 N, East Pittsburgh, Pa.

88. **Dayton Cog Belt Catalog**—a 32 page booklet full of vital information on power drives, plainly and simply assembled and arranged so that anyone can select the proper standard drive for any condition. It also provides data for the calculation of drives where acquired. The Dayton Rubber Mfg. Co., Dept. C-11, Dayton, Ohio.

90. **Atwood Booklet.** Describing Atwood Winders, twisters, wire swifts, and various types of feed rolls—useful to throwsters interested in learning the principal features of various Atwood machines. **Atwood Machine Co., Stonington, Conn.**

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Knitters Discuss Legislation and Policy; Name of Organization is Changed

WILLIAM MEYER, president of the Apex Hosiery Co., was elected president of the National Association of Hosiery and Underwear Manufacturers at the organization's 29th annual convention at the Commercial Museum, Philadelphia, on April 27, for his third successive term. This is an honor which is said by Managing Director Earl Constantine to have been conferred on only two of his predecessors—Charles E. Leippe, of Reading, Pa., and John Wyckloff Mettler, Interwoven Stocking Co.

As the nominating committee had recommended for the consideration of the convention a ticket without opposing nominees for any office, the election of officers was in itself a mere formality, and was transcended in importance by official comment on some of the then pending federal legislation.

The name of the association was changed to National Association of Hosiery Manufacturers, which was the corporate title in 1905, the underwear manufacturing trade having decided recently to have an organization representative of that industry exclusively. This was the third time the name was changed. It became American Knit Goods Manufacturers' Association in 1907, and the underwear and sweater industries having been organized in a small way in the meantime, in 1908 the name National Association of Hosiery and Underwear Manufacturers was adopted, according to the historian of the first distinctive national knit goods body and its organizer.

William Meyer, Who Was Re-Elected as President . .

Complete List of Officers.

The complete list of executive officers of the association is: William Meyer, president, Grover C. Good of the Globe Knitting Works, Grand Rapids, Mich., first vice president, succeeding George F. Dickson, Minneapolis Knitting Works. R. C. Aycock of the Aycock Hosiery Mills, South Pittsburg, Tenn., re-elected second vice president, and Ernest Blood of John Blood & Co., re-elected treasurer. Earl Constantine continues as managing director.

Two members were added to the board of directors, making necessary the election of four, as Mr. Good was promoted to vice president and J. Lee Bausher retired from the board. The new directors are William H. Gosch of Nolde & Norst Co., Reading, Pa.; James G. Hanes of the Hanes Hosiery Mills Co., Winston-Salem, N. C.; Roy E. Tilles of the Gotham Silk Hosiery Co., Inc., and H. L. Van Praag of Julius Kayser & Co., New York.

Directors continuing are: John H. Brine of the Rollins Hosiery Mills, Des Moines, Iowa; Joseph Haines, Jr., of the Haines Hosiery Mills, Philadelphia; C. S. Kincaid, the Magnet Mills, Inc., Clinton, Tenn., and W. H. May, May Hosiery Mills, Burlington, N. C.

Federal Proposals for Industry Discussed.

Federal legislation represented as intended to place the government in virtual control of production, wages and work hours in the textile industries was assailed from several angles in the sessions of the convention, in addresses by President William Meyer and Managing Director Earl Constantine, and in resolutions. The Perkins proposed remedy for the ills of the textile trades was especially a target for bitter comment by the two speakers, who referred to the recommendations of the Secretary of Labor as a species of dictatorship, Secretary Perkins having been quoted as saying, in a recent statement referring to cutthroat price cutting in the cloth trade, that where "industry is made to suffer by the unfair practices of fifteen per cent of it, it is time to take steps in legislation." The sentiment of the convention toward pending federal legislation represented by its sponsors as intended to benefit the textile industries in general and give employment to more persons engaged for restricted hours at a virtually fixed schedule of wages, was expressed in the following declaration:

"Resolved by the National Association of Hosiery and Underwear Manufacturers in convention in Philadelphia April 27, 1933, that we are not unsympathetic to the objectives of the measure submitted by the secretary of labor to Congress, intended to assist in the spread of employment without a weakening of the wage structure, and to check overproduction, but that we regard the provisions of said measure as extreme and impractical. We look upon the centralization of control as dangerous and unworkable, and we believe that the measure will fail in practical application because it does not invite nor assure wholehearted co-operation by industry. We further believe that any measure for the above purpose should be clearly an emergency measure and have a limited life.

"Be it also resolved that we regard it as fundamentally essential that any legislation intended to guide and control industry temporarily should be of a character which will not in any way curtail the initiative of industry and which will impose upon each industry the responsibility of working out within given limits that plan which will apply best to its needs, subject always to the approval of any such plan by the Government, particularly to assure that it does not violate public interest.

"Any plan so submitted by industry should give evidence of being subscribed to by a compelling majority of its production, and should then be made applicable to the whole industry with the force of law.

"Be it further resolved that the president of this association be and is hereby authorized to appoint such committee as he may deem desirable, whose responsibility it shall be to represent our interests in any approaching conference or hearings dealing with the above matter, and to take such steps as may be best for advancing our views and protecting our interests."

In conformity with the latter resolution, Managing Director Constantine on April 28 attended the conference of industrial and trade body heads at the Mayflower Hotel, Washington, which was called by the National Association of Manufacturers.

The president's address, which annually is treated as a word picture of the association's activities in the

preceding fiscal year and expressive of its general sentiment on trade policies, was awaited with unusual interest on this occasion in the unmistaken belief that it would deal in no uncertain terms with matters legislative which appear to industrialists as menacing employersa nd employees. In view of economic conditions and conditions remaining to be met, the association in the past year held probably more active conferences than in any year of its existence, said President Meyer. A conference for deliberating on policies and how they might be faced intelligently, he stated, was held in October, 1932, and "was attended by the largest and most representative group of our manufacturers ever brought together. A program of sound and broad policies had been prepared in advance by an advisory council which your President had created, and which consisted of about forty of the recognized leaders in our industry. They represented not only the manufacturers of hosiery and underwear, but equally the manufacturers of yarns and equipment."

"The conference," Mr. Meyer continued, "adjourned after adopting the mentioned policies with unanimity and in a spirit of solidarity such as we probably had not experienced heretofore. We must admit, however, that declines which followed shortly in both the commodity markets and those of the manufactured article, resulted in a somewhat continuous and unprofitable competition which has deprived us of many of the benefits achieved up to the time of the October meeting. The goal of co-operation is reached only by a path which is strewn with more thorns than with flowers."

Earl Constantine, Who Continues as Managing Director . . .

Referring in the course of his address to information that the Federal Trade Commission is planning a general trade practice conference for the hosiery industry in the Fall, President Meyer assured the convention that the association "would gladly participate in this work, with the thought that our knowledge of the industry and its practices will enable us to be of practical assistance. It may be said here," he went on, "that as business conditions have continued unfavorable, there have been evidences of the creeping in of bad practices which can serve no good end, so that the establishment of a code of good ethics and practices will be welcomed by all substantial and reputable manufacturers.

"A year ago," the president's address continues, "we were concerned with the possibility of a manufacturers' sales tax. Such tax did not eventuate, but we are faced today with legislative possibilities of more far-reaching character. I refer to the proposed taxing of our commodity, cotton, with equalizing taxes on silk and rayon as well. These proposals are a part of the agricultural program which is being advanced through Congress by the present federal administration. I am unable to discuss the contemplated legislation in a definite manner, because the proposal has not become law and we do not know what its provisions will be, nor the instructions and interpretations which will accompany it. It is clear, however, that our industry, which is selling its product today at little or no profit and compensation for its efforts, *is in no position to assume the burden which will result from an increased cost of its commodities.*

"The purpose of the agricultural legislation is to tax the people generally on their consumption of certain agricultural products, to an extent which will restore to the farming community the relative buying position which it held prior to the World War. Certainly it is not the intention nor the thought of the administration or of Congress to attempt to strengthen agriculture through a process of burdening an equally crippled industry. It is, therefore, not only necessary, but equally proper, that any taxes which may be imposed of the character mentioned shall be transmitted by our manufacturers to the jobbers and to the retail outlets, and in turn transmitted by them to the customer at the counter.

"Another form of legislation which has made progress affects our labor problem. The Black Bill, which recently passed the Senate, would prohibit any operative of ours from working more than six hours in a day, or more than five days of six hours each in a week. The original objective of its proponents may have been alone to spread employment, although it would appear that their interests are somewhat wider now. Our manufacturers have a genuine interest in assisting toward a reduction of the existing unemployment, and they are, therefore, sympathetic with any effort to properly accomplish such an end.

"Your Board of Directors, at its January meeting, authorized a canvass of the views of our members on the Black Bill, refraining from any comment which could possibly influence the views or expressions of the member. A tally of the replies received indicates that our members are opposed to such legislation. We have accepted this vote as defining the attitude of the Association. Just before the measure passed the Senate, we assisted in successful efforts to eliminate from the operations of the Act, executives, superintendents, their assistants, etc.

"Within the past week the Secretary of Labor, in behalf of the federal administration, has submitted to the House of Representatives a substitute for the Black Bill which is very far-reaching in character, and which would vest in the Secretary of Labor not only power to control hours of work, but similarly to control wages and even production operations. I would avoid a hasty appraisal of the merits of the proposal, and yet I believe there are certain aspects of this legislation which should be dealt with immediately in the interests of a clear understanding of the revolutionary nature of the proposal, both by industry and by the public.

"Industry has shown a disposition to accept any reasonable regulatory legislation necessary during the

period of emergency. This disposition is almost abused in the proposal under discussion, because both in substance and in effect it would vest in the hands of an inexperienced bureaucracy the supervision and control of industrial operations, the closest parallel to which is that which exists today in Russia. I doubt that the American people, as well as American industry, will accept Government operation of industry, nor that their representatives in Congress will subscribe to it.

"It may further be pointed out, as regards the measure submitted by the Secretary of Labor, that it carries no time limit for its operation. It would thus give us Federal control of wages, in spite of the fact that a child labor amendment to the Constitution has failed of confirmation by the States during the last few years. Thus, the advocates of a national minimum wage would secure in the guise of emergency legislation that which they are unable to secure through established constitutional methods. Its restrictions of operations will increase the costs, and therefore the prices of American-made goods, without affecting those of imported goods, thus operating against the domestic manufacturer. It would set up a cumbersome system of wage and hours-of-work boards, which will result in inequalities and dissatisfactions. Under its provisions for control of production it would authorize the Secretary of Labor to do precisely those things which are prohibited to the manufacturer under the anti-trust laws. It gives access to representatives of the Secretary of Labor to all books and records of the manufacturer. It excludes from interstate commerce all goods not manufactured under the hours-of-work limitations of the Act, without taking into account, and excepting, goods in stock or already manufactured and contracted for."

"For the first time, a year ago," President Meyer recalled, "our industries, which are important consumers of raw silk, officially indicated an interest in the rules which govern its classification and testing. A silk conference staged by us at our last convention resulted in the setting up of a silk committee which has been very active for over ten months and whose recommendations have challenged the serious interest of the Silk Association of America, and will doubtless result in modifications which will be beneficial to the users of silk, without at the same time being hurtful to the sellers."

The association will have a one-third representation on the Joint Committee on Silk Classification, which body is expected to solve problems of silk consumers as to the prevention of "rings" in hosiery. The committee will consider trade rules and contract forms.

Formal announcement was made that a canvass of the members of the association on the question of how best to restrict production to more nearly effective demand showed a preference for a two-weeks shut-down twice each year—during the December-January and June-July dull periods respectively. Some members favored a fixed week in each January and July for a shutdown, others being in favor of eliminating all Saturday work, thus providing for a five-day week without enforcing legislation.

Knitting Arts Exhibition Is Featured by New Developments

ORGANIZED in November, 1905, when its first convention was held at the Continental Hotel in Philadelphia which occupied a part of the present site of the Benjamin Franklin Hotel, at the corner of Ninth and Chestnut streets, the National Association of Hosiery and Underwear Manufacturers had its 29th annual convention at the Commercial Museum, during the progress of the association's 28th annual Knitting Arts Exhibition (officially designated the 29th by the management) from April 24 to 28. The nucleus of the association was an organization of hosiery manufacturers in the South. In the first convention in Philadelphia twenty-eight years ago there were 43 charter members. The first exhibition was held twenty-seven years ago in what was at the time an untenanted retail store—Sharpless Brothers—on the northwest corner of Eighth and Chestnut streets. When the nucleus of the present nation-wide organization was transplanted from the South, there were no full-fashioned hosiery mills in that section and not many elsewhere on the American continent. According to the showing by several recent surveys of the industry, made by competent statisticians, a large proportion of the seamless mills are in the South and the expansion of the full-fashioned industry has in the past few years been more rapid in that field than in any other hosiery producing community.

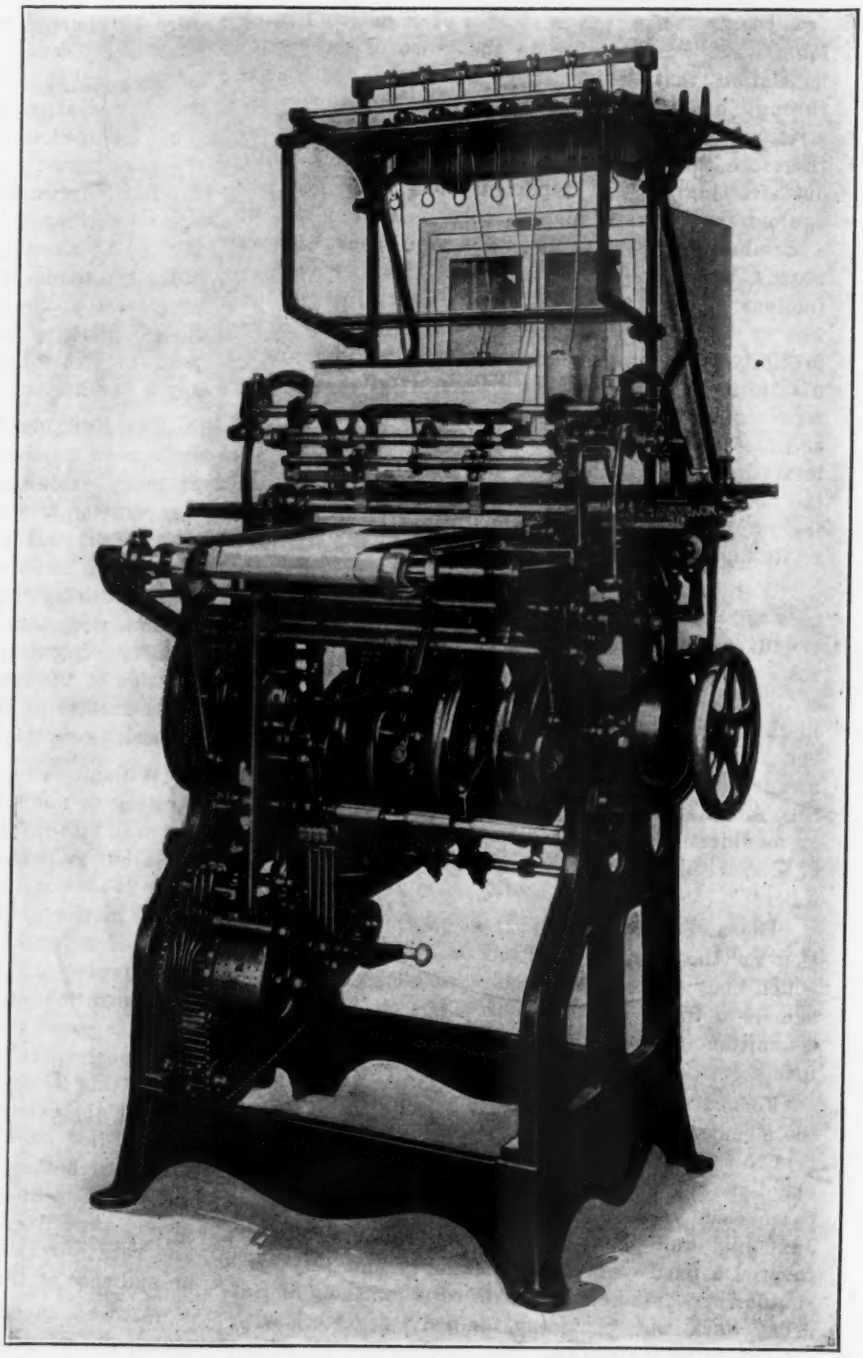
The Knitting Arts Exhibition this year, officially announced as the 29th, did not, of course, comprise as many exhibits as those in former years. But it was common comment of visitors that the exhibits covered a relatively greater range and presented more of newness in machinery and yarns and fabrics. That is to say, during the interregnum 1932-1933 there was accumulated more evidence of progress in the knitting division of textiles to be presented in this year's exposition of the major branch of the knitting industry —the mother of inventions had been busy during the necessities of the depression.

Without disparaging any one exhibit, that demonstrating in public for the first time the Wildman single head full-fashioned hosiery machine, was accorded attention by many visitors with a four-section set-up of a 24-section machine seeming at times to rival it in the matter of throngs at the booths. The four sections of a legger were displayed by Robert Reiner, Inc., representing Einseidel-Reiner machines. The demonstration was of interest chiefly because it presented a speed probably not attained in "high speed" machines generally. It was described by the exhibitor as knitting 95 courses per minute, compared with seventy or thereabout claimed for several types of modern full-fashioned multiple section devices. Early full-fashioned hosiery machines were of six sections and knitted 20 to 30 courses per minute, it was stated by an old time fixer who has been engaged in erecting and repair work for around 40 years, he confided to an audience at the Reiner machine booth.

Also of importance among the exhibits from the standpoint of progress in speed in textile mill equip-

No longer . . .
need ONE broken thread or broken needle stop 24 heads!

WILDMAN
THE WORLD'S STANDARD



The
WILDMAN
SINGLE HEAD
Full-Fashioned Hosiery Machine

Literature on Request

WILDMAN MFG. CO.
Full-Fashioned Division
NORRISTOWN, PA.

ment was a new model over-edging and over-seaming sewing machine of the Merrow Machine Co., which effects 5,000 stitches per minute, according to an authorized description. This compares with a speed of 3,000 stitches per minute on the model which it supersedes—and that was considered "going some". It is stated the new model, although in operation in one or two mills for two years, was not exhibited to the public until this year.

A unique and practical knitting device demonstrated was a Banner reverse plating machine from two feeds. Not only does it eliminate loose ends of fringe in plated half hose—it has a productive capacity of one third more than the previous latest model, which, it was suggested, makes it a timely creation in view of the proposed 30-hour work week. For reducing the cost of time consumed in knitting a given number of dozen pairs of women's full-fashioned stockings, visiting throngs accorded the Wildman single head full-fashioned machine first place and no one rising to protest the award.

From those in charge at the company's booth it was learned that one operative is operating 20 leggers at the Wildman company factory in Norristown, Pa., turning off 20 dozen pairs in a nine hour day, while an operative on eight footers is footing 24 dozen pairs in nine hours, one topper taking care of the eight footers. It was stated deliveries of 50 machines have been made March 1, and that 80 are in operation in experimental mills on 45- and 54-gauges.

There was exhibited also a 24-cut underwear machine. With 24 needles in each the dial and the cylinder, this machine, it was stated is easily the finest of any gauge yet offered to the public. It was expected it would be found eminently acceptable for manufacturers of bloomers and that class of underthings.

Strong among the exhibits were several types of elastic yarn—Lastex, Elastex and one that has not yet been given a trade name, according to the distributors. This and the "Elastex" are made from cut rubber sliced to a fineness that seems inconceivable. The various forms of elastic yarn are apparently approaching a period of very wide use in the textile trades.

Durene necessarily proved an attractive exhibit at the booth of the Durene Association of America, where various knitted and woven fabrics of finest texture were shown and the merits of durene yarn and progress in production of durene fabrics was elucidated by Miss Kathryn Day, fashion adviser for the association. Mercerizers who are members of the Durene Association had displays of their products, and several spinners of and Philadelphia houses operating in cotton yarns occupied booths. In fact, it was stated by several of the latter, that sales of gray yarns in this year's exhibition exceeded those at last year's show.

Boger & Crawford, spinners of fine combed peeler in Lincolnton, N. C., and operating a mercerizing plant in Philadelphia, had an arrangement of their product on cones in the form of the American flag in red, white and blue, the blue cones capped with tinsel for the forty-eight stars, and red and white in alternate stripes, all conforming to U. S. flag regulations.

For ornate design the Viscose company undoubtedly led in booth construction, which, however, was said to be but a one-fourth section of the original, reported to have been designed in England and completed at a cost of around $15,000.

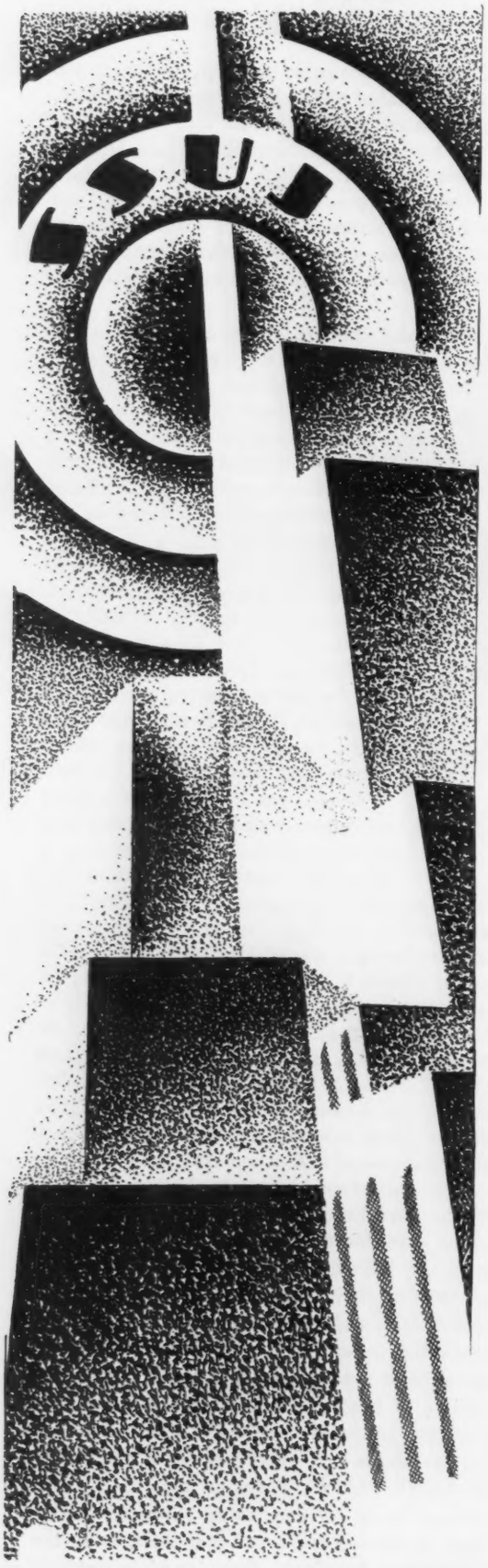
All of the rayon companies maintained lavish displays, which constituted probably the more colorful effects brought out during the "show". The principal attraction for hosiery manufacturers at the DuPont Rayon Company's booth was its Duponaise, a yarn which was somewhat recently shown for the first time in women's hosiery stressed at some leading department stores as "the stockings without rings" and priced 45 cents a pair for standard construction full-fashioned.

Practically all of the exhibitors of the more important types of mill equipment were present this year, in addition to new concerns and new creations in textile products. This may be said to have presented itself as a surprise to many on the opening day of the show when the lights were turned on the panoramic display, for some weeks before, a well known exhibitor had questionnaired a number on the matter of postponing this year's show and in future having them in alternate years. Postponement, it transpired, received virtually no consideration, and at a meeting of the Knitting Machine Manufacturers' Association during the week of the affair, it was declared the sense of the membership that the exhibition be held annually, as in the past.

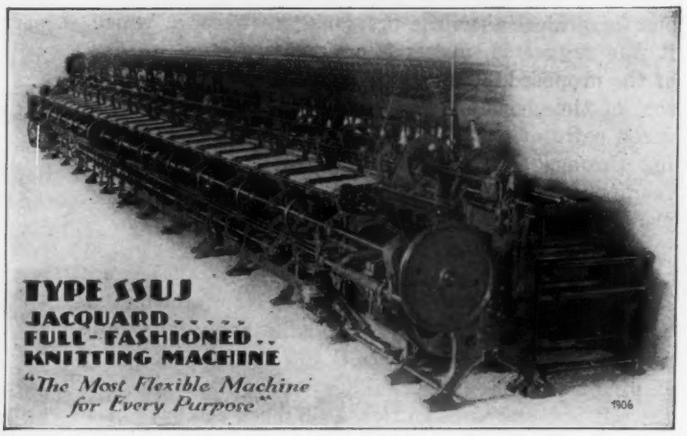
A. C. Rau, manager of Exhibition . . . .

It was the consensus of leading exhibitors who have responded that much credit for eliminating even a restricted apathy and winning for the show the comment from numbers of sources "the best we ever had," is due Earl Constantine, managing director of the National Association sponsoring these events, and to Albert C. Rau, the manager, who, by the way, actually was the active spirit in the arranging of exhibitions for the Chester I. Campbell, Inc. As a result of co-operation by Messrs. Constantine and Rau, the "show" proved a bigger one than a month before it opened was looked for by even some of the more optimistic, and brought an assemblage of not only visitors, but more executives and more buyers.

Sales of full-fashioned equipment during the exhibition were reported by representatives of each of the three machine manufacturers occupying liberal space. They were Louis Hirsch Textile Machines, Inc., with Mr. Hirsch very much in evidence four full days; Alfred Hofmann, Inc., and Textile Machine Works. The latter, by means of a very high-type brochure, stressed its late model high production machine in connection with an outline of improvements which have been developed since the preceding exhibition, and was alone in offering no single-unit machines, still preferring legger and footer. Alfred Hofmann also used printers' ink and art work for describing three distinctive types of high speed full-fashioned machines, from the factory of Schubert & Salzer. One, for plain work, is operated at a speed of 70 to 75 courses a minute. The



SCHUBERT AND SALZER



THE MACHINE OF THE FUTURE

Every indication is that the tide has turned—that better days lie ahead—that soon the hosiery industry will again be on an even keel.

These strenuous times have taught us at least one outstanding lesson—that is, that only those manufacturers who are eternally keeping their plants primed to the peak of perfection by installing the most advanced machinery can be successful.

Schubert & Salzer equipment is always "a step ahead" —meaning always faster production and better production. The latest example of this advanced equipment is Schubert & Salzer Single Unit Machine Type SSUJ. It is indeed the "machine of the future."

We cordially invite you to send for complete information. And—a demonstration can be arranged.

ALFRED HOFMANN

INCORPORATED

West New York New Jersey

two others, both high speed, are single unit machines, one operated in conjunction with a jacquard card.

Three years ago at the Knitting Arts Exposition Louis Hirsch expressed doubt that a really acceptable single unit machine had been perfected. A year later he was somewhat skeptical, but this year he occupied six regulation booths for discussing with manufacturers the advantages to be derived from knitting on the machine that produces a complete stocking in a single process or operation.

An executive from the Elliott Knitting Mills, Inc., Hickory, N. C., was noted among important visitors at the full-fashioned hosiery machine booths, and also an interested listener to the news that was going around about the latest models of high speed equipment, for plain and fancy full-fashioned stocking, was A. Straus, Jr., president the Archer Hosiery Mills, Columbus, Ga. It might be suspected that both contemplate installation of 1933 model machines, particularly from the fact that reports heard from various southern knitters were to the effect both manufacturers had no complaint of the type of depression experienced in their respective businesses. In any event, there was abundant contradiction of the opinion of one well known representative of full fashioned machine interests that in view of the number of relatively late model used machines obtainable through liquidation, and bankruptcy and receivership sales, 1933 will be a lean year for the builders of full-fashioned equipment. Yet it was readily apparent at the "show" that interest in new machinery was more widespread and indicative of more installation than was manifest in the 1932 exhibition. And it appeared there was no waning of interest in circular knitting machines, for seamless hosiery, although sales doubtless were of more limited numbers than ordinarily.

Speaking of new installation in 1933, Louis Hirsch, himself an ardent exponent of the modern, predicted this would be a year of house-cleaning by manufacturers—getting rid of their older and slower types of machines—in preparation for going into 1934 distribution with the production of not only new equipment but equipment better adapted to keeping pace with style changes and which will enable manufacturers to present certain innovations with little additional outlay for devices.

Mr. Hirsch, by the way, is one of the exhibitors who frankly express antagonism to the proposed 30-hour week. It would be hurtful especially to small communities depending mainly on a few mills, he says. Such establishments cannot, he points out, find help ready for employment in an emergency when it is necessary to speed up and therefore could not employ an additional shift, whereas if the regular help might be not restricted as to reasonable hours, overtime work could be supplied and earnings increased while the employer might be laying the foundation for additional permanent business.

There was heard much anti-30-hour-week sentiment in the exhibition hall, manufacturers appearing almost unanimously opposed to the restriction. The exhibition hall proved a better forum than the convention hall. A southern manufacturer of wide connections in production and distribution admitted his company recently installed more than one hundred 300-needle machines for meeting an emergency in the event the work time in mills be limited by legislation to "a few hours per week".

When the exposition doors opened on Monday for admission to visitors interested in machinery and knit goods essentials, the rayon companies were not quoting prices, although showing yarns and novelties in rayon fabrics. When a day or two later an advance in prices for rayon yarns was announced, there was something more than mere rayon to talk about.

The Rayon Displays.

The American Bemberg Corporation displayed pretty fabrics made from Bemberg. The American Enka Corporation made its first showing of its new dull yarn, introduced under the trade name "Englo".

The Delaware Rayon Co. featured its new 1200 denier double cover straw in knit straw cloth made into handbags, hats and other articles appealing to the feminine mind. Dupont rayon boucle yarn in hand-knitted type of dresses was shown at the DuPont booth.

The American Glanzstoff Corporation, in preparation for showing its Lion brand rayon, presented an abridged form of motion pictures for promotion of sales, and exhibited fabrics and yarns.

Knitted fabrics, and Spun-lo, bright and dull yarns entering into these fabrics proved an attractive display at the booth of the Industrial Rayon Corporation. The Tubize Chatillon Corporation, by means of a tabloid size four-page publication indicated the extent of its direct-to-consumer advertising. Interest was manifest in the report of the company's purchase of dull yarn patents from the New Jersey Zinc Co. The patents cover the delustering of rayon by the use of certain pigments.

The H. Brinton Company demonstrated its new machine for producing eyelet work by transfer stitches, the fabric being intended for fancy tops of children's stockings. A rack welt machine developed by the same company produces turned edges on 2x2 ribbed fabric.

A dyeing machine in which the boiling tank or tub is made of Haveg was shown by H. W. Butterworth & Sons Co. Haveg is a tile-like product of the Haveg Corporation, exploited as resistant to certain acids present in dyeing, and averting chemical reaction harmful to fabrics.

Bunting Announces Machined and Centered Phosphor Bronze Bars.

A new line of cored and solid bars of phosphor bronze bearing metal has been announced by the Bunting Brass and Bronze Company, Toledo, Ohio, which, it is pointed out, eliminates a large part of the expense and labor heretofore necessary in machining bushings, bearings and bronze parts from bar stock. The outstanding feature of the new Bunting bar is the fact it is machined and centered. Outside diameters are concentric with inside diameters; the usual centering of the bar stock by the user being eliminated. Hard surface scale is removed, and, it is pointed out, there are no under surface casting defects such as blow holes or sand inclusions. The bars are furnished with sufficient stock on the outside diameter to allow a finished bushing to be machined to the size labeled on the bar. The bars are made in 13-inch length, allowing machinists to obtain multiples of standard bushing length such as 1½, 2, 3, 4, and 6-inch.

The Care and Operation of the Banner Split-Foot Machine

Article Two

(This article is the second in a series of discussions on "The Care and Operation of the Banner Split-Foot Machine." The author started the series in the first article on page 89 of the April issue. Here he discusses the matter of sinker cam adjustments on this machine, and later articles will take up other parts of this machine for practical discussion. Then it is planned to discuss other types of Banner equipment.

Readers are urged to clip these discussions in order that they may have a complete file of these articles. Copies of the first installment will be furnished upon request. The author is willing to answer any specific inquiries concerning these machines.

The numbers appearing in parentheses following the names of parts are those used in the manufacturers' blueprint book which is furnished to operators of the split-foot machine.—The Editor.)

Sinker Cam Adjustment on the Old Model Split-Foot.

EDITOR COTTON:

This continues the articles on the Banner split-foot machine by taking up first the sinker cam adjustments on the old model split foot machine. Side sinker (152, front) and (153, rear), shown on page 20 of the blueprint book, and center sinker cam (3051) shown on page 30, are utilized to knit the leg, high splice, heel, sole and toe. Auxiliary side sinker cam (3085, front) and (3084, rear) and center sinker cam (3147) are used in knitting the instep.

In order to be fair with himself and with his machines, the fixer should keep all sinker cams in first-class condition. It is only reasonable to expect that they will become worn in time to such a degree that they must be replaced, however, their period of usefulness can be greatly prolonged if the various cams are removed at regular intervals and carefully polished, making sure to remove all nicks and rough places. Careful attention must be given to the rear ends of the four side sinker cams where they lap over a portion of the sinker cap or butt against it so as to avoid openings or projections at these points which will cause sinker butt breakage.

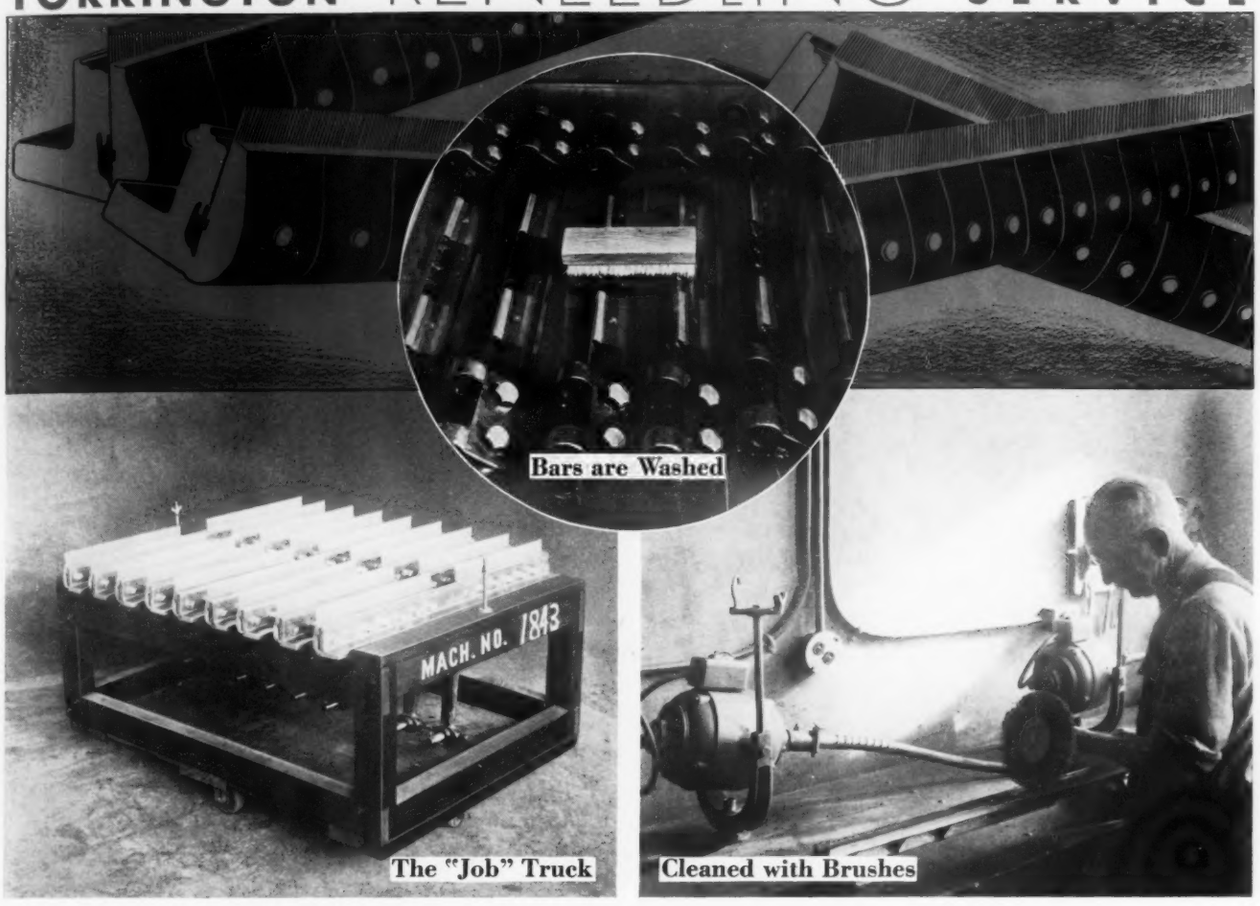
There are two factors which must be considered carefully and understood clearly when sinker cam adjustments are made. First, the sinker cams should be set so as to bring the sinkers *in* the proper distance. Second, the bumper bracket screws should be set so as to bring the sinkers in at the proper *time*. Many fixers follow the old rule of setting the point of a sinker cam 3/16-inch from the inside of the sinker cap for the proper inward adjustment. This, however, cannot be adopted as a 100 per cent correct rule, as allowances must be made for worn sinker caps, kind of needles and yarns being used, and type of goods being made.

For *inward* adjustment it is safe to set the sinker cams so that the throat of the sinker comes to the back of the needle when the sinker butt is on the point of the sinker cam. (See Fig. 3) If sinkers are forced in so the throat comes beyond the back of the needle, the stitches will be strained, causing holes to be cut in the heel and toe gores, yarn changes, or in the seam where the instep and sole yarns lap. This trouble will show up especially on rayon and silk twisted numbers and on mercerized ingrain numbers.

Sinkers on any type of circular machine should not be considered as a means of forcing or pushing the stitches off the needles, as they come up, but rather gently rolling the loops over the top of the needle hooks and holding them so that they will not be disturbed by the needles coming up after the loops have been formed. So much for the first factor in sinker cam adjustment.

The second factor as stated before is getting the sinkers *in* at the proper *time*. Timing the sinker cams is accomplished by adjusting the sinker cap bumper bracket screws for the regular sinker cams and by individually adjusting the auxiliary sinker cams. Very often machine fixers will turn the bumper bracket screws so as to advance or retard the regular sinker cams and then fail to re-adjust the auxiliary sinker cams so as to keep them in their original position. A simple rule to follow in timing any of the four sinker cams on the old split-foot machine is to have one sinker all the way in on each side of the needle when the top of the hook comes up, even with the knitting ledge of the sinker. Frequently knitters are to blame for sinker cams being out of time. This is caused by knitters failing to locate the sinker cap properly when the carrier ring is lowered after transferring. Usually the bumper screws become bent or broken and in time a groove will be cut in the carrier ring by constantly being rubbed against the head of the bumper screws, causing the cap to become retarded. The rear sinker cam on the old split foot machine is the most difficult of the

TORRINGTON RENEEDLING SERVICE



Torrington reneedling service is *complete.* We take every possible step to insure your needle bars being put into perfect working condition . . . For example—bars, when sent to us, are given a "job" number, and each job is placed on a small truck where it is kept as a unit throughout the reneedling process; this facilitates the reassembling of the plates on the bars exactly as they are received . . . Bars are thoroughly cleaned—once in a special cleaning fluid—again with revolving brushes made expressly for this work. Then the old papers are replaced—with Torrington "in-the-trick" paper. This paper, developed at our own plant, retards discoloration and pitting; helps to maintain perfect alignment. These are just a few of the reasons why it pays to reneedle at the Torrington Philadelphia plant.

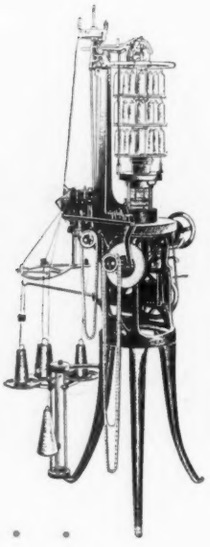
THE TORRINGTON COMPANY

ESTABLISHED 1866, TORRINGTON, CONN., U. S. A.

RENEEDLING BRANCH: 1640 FAIRMOUNT AVENUE, PHILADELPHIA, PA.

THE MACHINE . . .

A true rib circular machine by Fidelity. It has a reputation for good work to maintain—and here Torrington needles are indispensable.



THE PRODUCT . . .

Half-hose for children, made by Allen-A . . . slated for selling success on the basis of design, color, and above all, *good fabric*. Good fabric is one of the happy results of filling a machine with Torringtons.

AND TORRINGTON NEEDLES

They win friends with their *performance* . . . these Torrington Latch needles. We make them with all the care that is possible; and it is gratifying to see Torringtons specified by so many machine makers and knitters who have a similar pride in their work.

The Torrington Company

ESTABLISHED 1866

Torrington, Conn., U.S.A.

BRANCHES:

THE TORRINGTON COMPANY.	1640 FAIRMOUNT AVE.,	PHILADELPHIA
THE TORRINGTON CO., INC.,	140-144 W. 22ND STREET,	NEW YORK, N. Y.
THE TORRINGTON COMPANY.	528 SOUTH WELLS ST.	CHICAGO, ILLINOIS
THE S. M. SUPPLIES CO.	210 SOUTH STREET	BOSTON, MASS.
LOS FABRICANTES UNIDOS.	964 CALLE BELGRANO.	BUENOS AIRES

FACTORIES AT:

TORRINGTON, CONN. . UPPER BEDFORD, QUEBEC
COVENTRY, ENGLAND . AACHEN, GERMANY

TORRINGTON *Latch* NEEDLES

four to adjust simply because it affects so many parts of the hose. When adjusting this cam, it must be remembered that it will affect the leg, half of the heel, toe, splice and sole, all of the ring toe, loose course and looper rounds. It is obvious therefore that a fixer analyze his troubles carefully before readjusting this cam as guess work will surely bring on additional complications. Uniform adjustment of all four sinker cams is very important on the old model split foot machine, especially as to distance *in*, as various kinds of cutting trouble will develop if the auxiliary side sinker cams are set in slightly deeper than the regular front and rear sinker cams or vice versa.

Sinker Cam Adjustments on the New Model Split Foot.

In order to completely eliminate various knitting troubles and make possible the production of hose out of a great variety of yarns which could not be successfully used on the old model split foot machine, the manufacturers re-designed sinkers, sinker cams and the sinker cap. The No. 2 type machine used three different kinds of sinkers, which was a great improvement over the old model machine; the latest model, however, has again been improved so that but one kind of sinker is necessary. This new type sinker is known as No. 7763 and is similar to the plain type sinker No. 7750 except that the throat of the No. 7763 sinker has been slotted slightly downward below the flat part of the sinker over which the yarn is drawn as the needle goes down between the sinkers. (See Fig. 2.)

In order to get the full benefit of this new type sinker it was necessary to arrange the auxiliary center sinker cam (3597) so that it could be moved inward toward the center of the cylinder in an inoperative position, except while making the high splice and sole.

In the first discussion in this series, in the April issue, I stated that the old model split foot machine

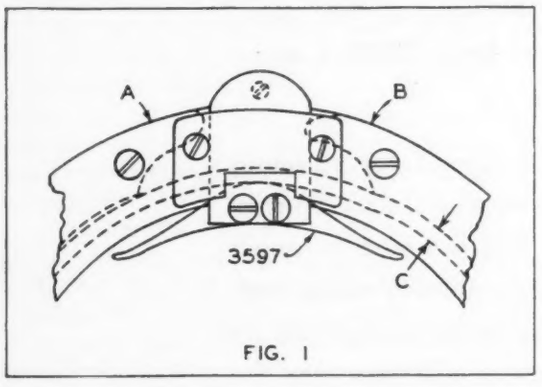


FIG. 1

Fig. 1 shows the new type movable auxiliary center sinker cam (3597) in an inoperative position. The latest type sinker cams are shown at A and B. The dotted line shows the path of sinker butts.

would not run satisfactorily only on certain kinds and combinations of yarns. This was caused to a certain extent by the auxiliary center sinker cam drawing the sinkers out while the complete sock was being made, thus disturbing the fabric made by the regular sinker and stitch cams. Having a movable auxiliary center sinker cam makes the new split foot machine, using the new No. 7763 sinker, operate similar to a plain machine, except while making the high splice and sole. The inside of the auxiliary raise cams has also been re-designed, so that the needles will be in a raised position after knitting in either direction when the sinker is withdrawn by the auxiliary center sinker cam. By controlling the needles in the manner just described, using the new type sinker and side sinker cams and the movable auxiliary center sinker cam (see Fig. 1) it is possible to produce silk numbers free from streaks in the leg and instep and to eliminate breakage in rayon numbers

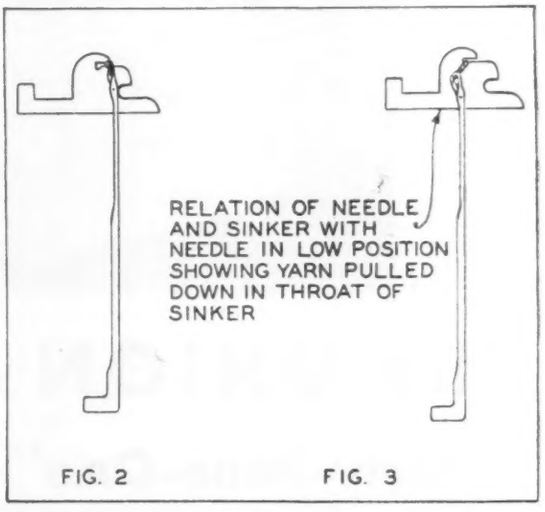


FIG. 2 FIG. 3

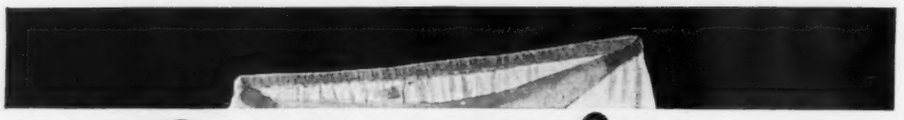
Fig. 2 shows the needle raised to relieve tension on the stitch so that the sinkers can be drawn back by the auxiliary center sinker cam. The sinker shown in this sketch is the latest type No. 7763 with a downward slotted throat.

Fig. 3 shows the relation of needle and sinker with needle in low position, showing yarn pulled down in the throat of the sinker. Note that the throat of the sinker is even with the back of the needle.

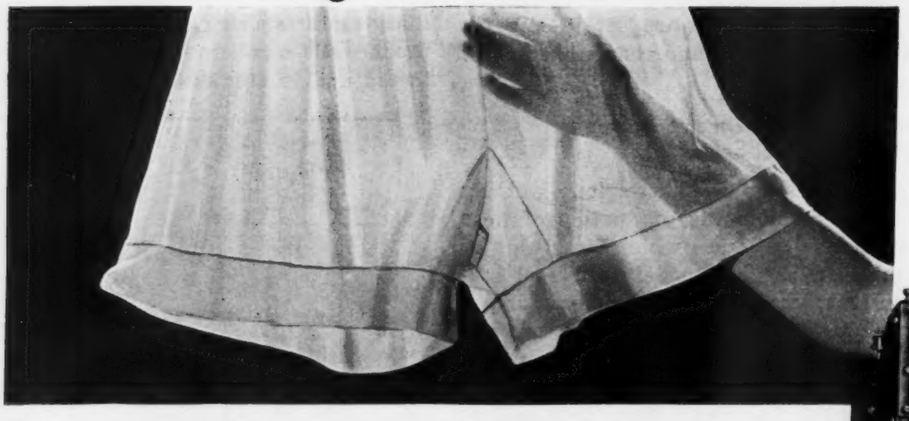
in the split-foot seam while knitting, boarding, or being put on by the wearer.

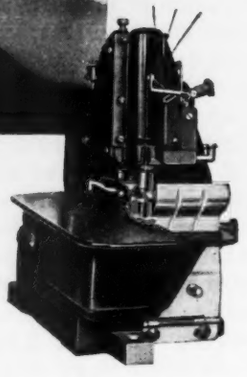
The various suggestions made in connection with sinker cam adjustments for the old type machine will also apply to the new machine. The angle at which the sinkers are moved inward is somewhat steeper on the new type machine than on the old, and for this reason it is possible to make closer adjustments in both distance in and throw or timing of the sinker cams.

In making sinker cam adjustments much will depend on the size and kind of yarns used, also how tight the fabric is being knit. It must be remembered that once the loop is formed by the needle it will stand only a certain amount of sinker pressure, and for this reason careful attention must be given as to how far in the sinkers are moved. Regardless of what kind of yarns are being used, holes will be cut in the fabric if the loops are strained after they have been formed. The extreme flexibility of the new type sinker and sinker cam arrangement is clearly demonstrated by the fact that it is possible to produce hose in which the leg and instep are made of



For Perfect Seaming





The UNION SPECIAL
"Thirty-Nine-One" Overseamer

MANUFACTURERS of undergarments know that even the most expensive fabrics cannot compensate for the appearance of a mediocre finish. Especially in rayon is seam construction the popular indicator of value. This is the reason why Union Special ranks perfection of stitching as the paramount characteristic of the new Style 39100 C overseaming machines.

Style 39100 C is especially designed for seaming light weight knitted fabrics with the Union Special overseaming stitch Type 504. It is the most compact machine for high speed — high quality work ever developed. Samples of the seaming performed on light weight or fine gauge fabrics will show you the quality of its work. Write for these samples and data on "Thirty-Nine-One" performance.

UNION SPECIAL MACHINE CO.

400 N. Franklin Street **Chicago, Illinois**

eight-thread silk and the sole of 40s/2 mercerized cotton.

The next article will discuss other adjustments on the split-foot machine.

CONTRIBUTOR No. 6206.

A Discussion of the Parts of Scott & Williams Knitting Machines.

Plate XIV.

(This continues the series of short articles discussing the machine parts on Scott & Williams machines, by taking up in order the various plates in the manufacturer's catalog with which all men using this make of machine are familiar.

The first article, on page 126 of the October issue, covered Plate I, Plate II, and Plate III; and the second article, on page 86 of the November issue, covered Plate IV. The third article, on page 97 of the December issue, took up the parts shown on Plate V. The fourth article, on page 94 of the January issue, covered Plates VI, VII and VIII. The fifth article, on page 101 of the February issue, covered Plate IX. The sixth article, on page 73 of the March issue, covered Plates X, XI and XII. The seventh article, covering Plate XIII, was on page 94 of the April issue.

It is suggested that in reading these discussions, the reader turn to the plate in question in the catalog and refer to it while reading the comments found in these articles. Furthermore, it will be a good idea to clip these discussions and file them in the catalog along with the plates to which they refer.

The numbers in parentheses following the names of parts are the same numbers used by the manufacturers in referring to the parts in the catalog.—The Editor.)

EDITOR COTTON:

Universal Main Head Parts.

The term "universal" used in connection with the parts shown on Plate XIV, as well as on other plates in the catalog, does not necessarily mean that every part, bolt, nut or screw shown on the respective plates is used on every model of Scott & Williams machines. There are, however, a great number of parts on this machine which are 100 per cent universal, which is a very desirable feature for the mill using these machines. Many mills must use from two to four different models of machines in order to be able to manufacture a "complete line" of hosiery. Repair parts must be kept on hand; therefore, universal parts make low parts inventories possible.

Universal use of repair parts also helps toward minimizing the accumulation of obsolete parts, which is one of the many things hosiery mill owners must guard against. All of the parts shown on Plate XIV are used on Model B-5 machines, which are used chiefly to manufacture men's hose, women's hose, misses' anklets, etc. Some of the parts shown on this plate are used on Model K machines, and others, which will be taken up in detail in connection with future discussions covering these particular models. The present discussion will cover the parts shown on the plate as they apply chiefly to Model B-5 machines, and in a general way to all models using these parts.

The Bed Plate.

The bed plate (5553) is one of the many universal parts of a Scott & Williams machine that will last for the life of the machine and requires little attention other than regular lubrication. It serves as a foundation for all of the parts shown on the plate, and is held to the frame of the machine by the bed plate screws (15176) which should be kept as tight as possible, for they must support considerable weight and hold the bed plate rigid to the frame. At times it becomes necessary to remove all the parts which are attached to the bed plate in order to make certain repairs. When this is done the bed plate should be thoroughly cleaned, removing all old oil and grit, then re-oiled after the parts have been replaced.

The Gear Ring.

The amount of service a gear ring will give under normal conditions is truly remarkable. It seldom becomes necessary to replace one in a plain machine and when this does happen it is very often caused by lack of attention, accident or abuse. Gear rings on Model K and H H machines must be kept in first class condition, as various kinds of trouble in making up and transferring will develop if the rings are worn to any extent; on plain B-5 machines, however, gear rings can be worn considerably before it becomes necessary to change them.

One of the most common forms of gear ring trouble on the older Scott & Williams machines was (and still is) loose gear ring splines. This is caused mostly by the spline screws (15303) working loose; then when the gear ring reciprocates the screw holes soon become elongated, causing the threads to strip, and off comes the spline. In most cases of this kind, the screw holes can be re-tapped so a larger screw can be used, and the spline replaced. In this connection it is best to add an additional spline screw so there will be three screws to hold the spline instead of two.

Frequently gear rings are to blame when machines fail to hold sizes or make a distinct loosely knit place across the instep. This is usually caused by the tubular portion of the gear ring which fits into the cylinder becoming dry or rusting, thus making it impossible for the cylinder to move up and down freely. An application of light oil now and then will correct this trouble.

The Cam Ring.

All of the parts shown on the upper half of Plate XIV as well as many others which are necessary to control the needles during the knitting operations are mounted on the cam ring. The cam ring in itself is not troublesome in any way. It is fastened to the bed plate with four screws (15277) and holds the gear ring in position. Occasionally broken needle butts or broken jack butts will become lodged between the cam ring and the gear ring, causing the machine to turn hard or stop. At times these can be removed by loosening the cam ring screws, removing the jack gate, then, while turning the machine slowly, the broken pieces can be "fished out" through the jack gate opening with a magnetized screw driver. If the broken butts are so far under the cam ring that they will not show up in the jack gate opening, it is best to take the machine apart and clean out under the cam ring thoroughly before further damage is done. Many machine fixers, if they are not successful in removing broken butts through the jack gate opening, will loosen the cam ring screws and permit the machine to

run, hoping that the offending particles of metal will work themselves around to the opening in the rear of the cam ring. This practice, although it may do the trick now and then, will bring only temporary relief, for sooner or later the machine must come down and be cleaned out. Various kinds of machine trouble will develop if a machine is left to run with a loose cam ring, especially if it happens to be a Model K or H H machine. The needle rests (7674—7678) are used on several models and (7668) on plain machines; neither of the three requiring any attention other than being securely fastened to the cam ring.

The Stitch Cam Bracket.

The stitch cam bracket (5923) is held to the cam ring by the segment bushings (6566) and screws (15254). Where the bracket is used on a machine making transferred rib top numbers, the segment bushings must be long enough to permit the bracket to move inward and outward freely, yet with a minimum of up-and-down motion, in order to avoid uneven knitting and other defects while making the heel and toe. When the stitch cam bracket is used on plain Model K or string work machines the segment bushings must be short enough to hold the bracket rigid

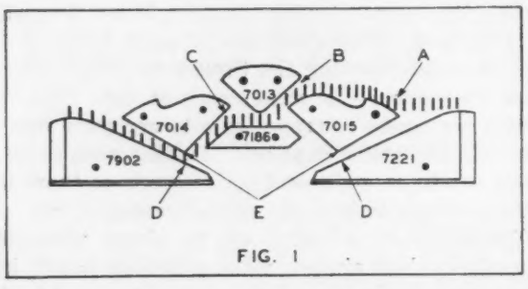


FIG. 1

to the cam ring. As a rule, stitch cam brackets do not wear out, however, they are occasionally broken by machines running out of time, needle butts jamming in the cam ways, etc. The segment slide (7092) is used on machines where the stitch cam bracket remains stationary. The segment slide (7103) and spring (6611) are used on movable stitch cam brackets.

Before closing this discussion, I will attempt to make a few suggestions and give more detailed information of the following cams:

7014 Left stitch cam
7015 Right stitch cam
7902 Left hand side cam
7221 Right hand side cam
7013 Upper center cam
7186 Lower center cam

The sketch, Fig. 1, herewith shows the approximate shape of the various cams and their respective positions just as they appear on the machine. It is self-evident that any of these cams will become worn to such a degree that they must be replaced, eventually. However, if they are properly adjusted and cared for, their useful life can be prolonged, and they will do their part toward making good merchandise while they are wearing out. Much can be accomplished toward lower needle breakage, fewer seconds, less waste and consequently lower production costs, by keeping the various cams shown on the sketch in first class condition so that the needles will be under perfect control at all times.

The dotted line on the sketch indicates the needle path, showing how the needles are raised or lowered over or under the various cams while they are running in a counter-clockwise direction as they do when making the leg and foot. The needle path is alternately reversed when making the heel and toe. A great amount of needle breakage, seconds and waste can be traced to needle vibration at various points, and is generally caused by cams becoming badly worn or nicked at the respective points where the needles first strike the cams to be raised or lowered, as the case may be. These points of wear are indicated on the sketch as follows. Stitch cam 7015—*a*; upper center cam 7013—*b;* stitch cam 7014—*c;* side cam 7902—*d*.

The amount of time required for any of these cams to wear sufficiently to give trouble will be governed by lubrication, speed, gauge, kind of goods being made, and numerous other factors, but over and above all of this, it must be kept in mind that these cams are wearing constantly at every revolution of the needles, and it stands to reason that they must be repaired—nicks ground out and cams re-polished—constantly.

The problem of "how often to go over a set of cams" can be easily solved by the machine fixer if he will study his particular machines carefully, make up his mind as to how often he must do this job for best results, and then *do it*. It requires considerable time for cam surfaces to become nicked, but once they get started they soon get worse when the needles begin to vibrate frequently, causing three or four rough gaps in a row on the cam surface. Any of the cams shown on the sketch will stand considerable re-grinding and polishing. However, if the nicks get so deep that re-grinding and polishing changes the pitch of the cam it will be best to renew the cams and avoid further trouble. This is especially true of stitch cams (7014—7015) and upper center cams (7013), as they are not adjustable. Right and left side cams (7902—7221) can be re-polished a number of times as they are adjustable. This should be done over the complete surface of the cams, beginning below point *d* and then upward to the top of the cam so as to maintain the original pitch of these cams.

Cam Grinding.

Some machine fixers complain that cams do not wear well after they have been ground and polished to remove nicks or rough surfaces. They contend that cams should be left alone until they give trouble, then be discarded. Quite the contrary is true, however, as cams will give excellent service after they have been re-worked if the job has been done right.

One of the things causing rapid wear in re-worked cams is too much pressure being used while grinding, causing the cam surfaces to overheat, which removes the temper. Grinding wheel speed, hardness and grit must also be taken into consideration when this work is being done. Many cams take a "short cut" to the scrap pile by being left in the machine until they become worn enough to give trouble. The safest way is to do this simple task oftener for if the nicks get too deep so much of the cam surface must be ground

away to remove them that it increases the pitch of a cam, thus making it unfit for further use. The old saying that a stitch in time saves nine can be well applied to cam grinding and polishing.

Uneven Knitting in Heel and Toe.

Uneven knitting is caused principally by three things: Improper sinker cam adjustment (this will be taken up in a later discussion); worn or mis-mated stitch cams; and worn or poorly adjusted side cams. Worn stitch cams usually rank first in this connection. This is caused mostly by cam (7014), as this cam is subject to more wear at point *e* (see sketch) than cam 7015) simply because the complete stocking, except half of the courses in the heel and toe, is knit by cam (7014). As this cam continues to wear the distance the needles are being drawn downward decreases, causing a shorter loop to be drawn by cam (7014) than by cam (7015), which has not been worn nearly as much at point *e* over the same period of time. The resulting difference in the length of the two cams causes a wavy or uneven appearance in the heel and toe, usually termed loose and tight knitting. One way to overcome this trouble is to replace a worn (7014) cam with a new one, matching it as to length with cam (7015). Another way is to re-point cam (7014), then shorten cam (7015) at point *e* and re-point it also, matching it perfectly as to length with cam (7014).

Usually fixers argue as to which method is the better of the two named. My opinion is that it is better to re-grind both cams as both have been worn to a certain extent, rather than replace a worn (7014) cam with a new one and immediately shorten it to match the (7015) cam. After both cams have been re-worked several times they should be replaced with new cams and the procedure started all over again. By following out this plan the service of both cams can be completely utilized.

Mis-mated Stitch Cams.

When two new stitch cams (7014) and 7015) are put in a machine it is not uncommon to find one slightly longer than the other. The difference in length can easily be determined by racking the machine around to the ring toe and knitting an inch of fabric while turning the cylinder counter-clockwise; then keep the fabric on the needles and knit one inch of fabric while turning the cylinder clockwise. If the stitch cams should vary in length the long cam will knit looser than the short, and the extent of the difference will show up plainly in the two pieces of fabric. Usually this difference is slight and can be easily corrected by shortening the longer cam the amount necessary to even up the stitches. Many fixers prefer to remove the stitch cam bracket, put on the new stitch cams and match them for length by placing the bracket on a surface block and measure the cams with a pair of inside calipers. This is also a good method but requires more dismantling of the machine, and usually takes more time, the results obtained will be the same. The important thing is not which method is followed, but how accurate this work is done.

Practically all goods being knit nowadays require stitch cams to be hollow ground for best results. The hollow ground portion should be about 5/16-inch long and not over 1/32-inch deep in the center of the hollow. It should begin at the point of the stitch cam, thence upward as shown in the sketch, Fig. 2. Hollow grinding can be neatly done by using a two-inch emery wheel, preferably of a soft No. 100 grit, then polishing the cams with fine emery cloth on a small ar-

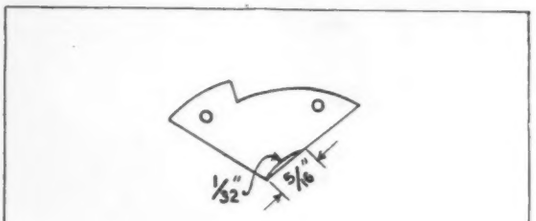


FIG. 2

bor. The face of the stitch cams shown at *a* in Fig. 2 should be from 3/32-inch to 1/8-inch wide, and be uniform in width from top to bottom to insure controlling the various lengths of needle butts exactly alike. Both right and left hand stitch cams should be ground alike in every respect.

The Side Cams.

Badly worn or poorly adjusted side cams are a detriment to even knitting. Even though the stitch cams are in good shape. much depends on the side cams if the needles are to be controlled properly at the knitting points *e* and *d* shown in Fig. 1. Too much play at these points causes loss of control of the stitch and brings on numerous other troubles besides wavy and uneven knitting. On re-surfaced side cams the pitch should be the same as on new cams, just as they come from the factory, with all nicks removed and the cams well polished. Side cams should be set inward towards the stitch cams just as far as possible without binding the needle butts as they pass between points *e* and *d*, Fig. 1. A simple way to make sure of this adjustment is to set side cams inward toward the stitch cams until a rasping noise is heard, then move them back just far enough to eliminate the noise, and tighten them securely. Side cam adjustments should be checked up carefully, especially after machines have been jammed by broken needle butts, as they are frequently knocked out of adjustment by such accidents. When side cams are properly shaped the channel in which the needles travel from points *d* upward should become gradually wider towards the top of the cam. This permits closer adjustment and eliminates all possibility of needles binding anywhere excepting at points *d*, when the cams are being set and tested.

The next discussion in this series will cover Plates XV and XVI.

CONTRIBUTOR NO. 6038.

The man who flies into a rage and cusses everybody out when something goes wrong will soon discover that he has got to fly into a rage every time he wants something done or his men won't know whether he really means what he is saying or not.

B&C YARNS....

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Perfect knitting is largely dependent upon the manner in which yarns are wound upon the cones.

Proper winding is even more essential today than ever before—made necessary by the ever-increasing speeds at which knitting machines are operated. B&C Yarns are properly wound, always. Each cone is carefully inspected for winding before it is packed for shipment.

This final inspection is the last of a series of tests from the raw cotton to the finished cone—tests which guarantee the uniform high quality of all B&C Yarns.

For perfect knitting
use B&C Yarns

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What Do You Do about Worn Striking Jacks on Full-Fashioned Machines?

EDITOR COTTON:

I should like to ask for a discussion in your "KNITTING KINKS" department by full-fashioned manufacturers on the following questions:

What is the best method of correcting uneven fabric, tight and loose streaks, in full-fashioned hose, caused by unevenly worn striking jacks in the jack head, or what is the best method of standardizing unevenly worn jacks in full fashioned machines?

CONTRIBUTOR NO. 6214.

Seamer Practice and Results

EDITOR COTTON:

In answer to the questions of "CONTRIBUTOR NO. 6185" in reference to seaming, I am going to set down what our experience has proven in the handling of the Union Special seamer and operators.

As to production of the operators, naturally this varies over a wide range. We have some operators on plain four- and seven-thread who can do as much as five dozen per hour, then we have some who are only good for three dozen per hour. Our average runs about four dozen per hour on plain work, that is, just with the picot top in either seven- or four-thread. It is true that some mills consider four-thread chiffon to be much more difficult to run than seven-thread service. We, on the other hand, specialize in chiffon and our girls are so accustomed to handling it that we note no particular difference. On the other hand, I presume that if we were handling nothing but service weight continually our production might be improved slightly because it seems reasonable that you can get a greater production on service weight than you can on chiffon under the same circumstances, however, our rates are the same on both and we seem to get an equal production on both.

While speaking of production there are a number of factors that enter into rapid seaming as well as the operators themselves. To begin with, the work must be knit properly, and by properly we mean evenly, so that one side is balanced the same way as the other side when it comes off of the machine. The greatest difficulty that the seamers have with their work is making both sides match properly. This requires just the proper machine adjustment and also due consideration to the condition of the silk, particularly in the heel splicing. If the machine is adjusted properly, that is to say, the full-fashioned legging machine, and the silk is uniform, the seamer should be able to get a good production.

Seaming thread also has a great deal to do with the production, so that the operator does not have too much breakage and has the machine running on yarn that is absolutely free from knots. We are using at the present time a 50s/2 Sak count and we find it to be very satisfactory. The majority of our work is on four-thread chiffon.

Now in reference to the needles and the consumption per dozen stockings. "CONTRIBUTOR NO. 6185" seems to have a great deal of trouble if one needle in twenty dozen of hosiery seamed is breaking. We feel that either he is not using the right type of needle or else something is wrong either in the start or the finish of his seaming. It might be that he is using too heavy a looping, the looping being so heavy that it is throwing the needle off to the side and snapping it. The same applies when finishing off the heel at the foot. Lots of needle breakage is due to the fact that the girl does not put her needle back all the way when starting. Then again the cups might be too loose so that the proper tension is not obtained when running the stocking through the machine, and the stocking might be pulled back too hard, thus breaking the needle. We have recently changed our type needle from 155-027 to 155-030, and find that this new type needle is giving us much better service. It is just slightly heavier and stands up better. We would suggest that your contributor try this latter type.

CONTRIBUTOR NO. 6192.

Question on Degumming, Dyeing and Finishing Sheer Hosiery.

EDITOR COTTON:

At this time, when fashion decrees light weight sheer hosiery, there is a tendency to use a thread number lighter than that for which the gauge of the machine was originally designed. This aggravates the tendency of the machine to produce a sleazy fabric with distorted stitches, generally known as crepy stitches. This objectionable characteristic of looser knit sheer hosiery can be improved very much by the means and methods used in de-gumming, dyeing and finishing the hosiery to give to it a good hand and an attractive finished appearance.

What is the best method of de-gumming, dyeing and finishing sheer hosiery to minimize crepy stitches and give a good hand and body to the stocking? I should be pleased to have some of your readers answer this question in the light of present conditions.

CONTRIBUTOR NO. 6215.

Wants Method of Lubricating Transfer Ring Points.

EDITOR COTTON:

We should like very much to see, in your knitting department, discussion as to the best means of lubricating the points on knitting machine transfer rings; also the method of applying, for obtaining best results.

Also, we should like to see discussed the results obtained from the use of oil wick cups on knitting machines, used for the purpose of letting the yarn run over the wick before it is fed to the needle. I would especially like to know on what types of yarn and types of work these are being used satisfactorily.

Further, which yarn should be used for the purpose of obtaining the best results, that is, should it be one of the yarns used in the leg and foot so as to reach all needles, or should it be the yarn used for the heel and toe, which would reach only the short butt needles?

CONTRIBUTOR NO. 6218.

THE KNIT GOODS MARKETS . .

THE hosiery industry in its palmiest days profited more from style than from utility, in the opinion of a factor who has done a great deal to promote style. This probably is a correct deduction, and it might be said that the industry has profited least during a protracted period of a famine in style—innovations, in other words.

Almost since the commencement of the tumble in prices for women's silk full-fashioned hosiery from a dollar a pair as a minimum, for a time, there seems to have been studied effort to advance hosiery distribution in virtually all lines on the basis of utility, and place dependence on eventual style changes for reviving and maintaining woman's interest. Utility and price have put the one-time dollar stocking in the fifty-cent bracket, and as it is thought this price is here to stay as a popular one, time is ripe in an endless field for style innovations combining utility, it was suggested by an observer commenting on a lavish display in a window of one of the more popular New York stores in the fashionable mid-city shopping district. But that might mean sacrifice of volume, in no little extent. The theory that volume can be maintained while exploiting innovations is explosive.

This year's pre-Easter retailing of hosiery lacked snap, was the comment of some of the more prominent department managers, and, it was remarked, there was virtually nothing in the sales from which to arrive at conclusions as to vogue for spring and summer. Severel of the leading New York retailers, it may be recalled, recently devoted considerable effort to the exploitation of ingrain silk stockings, at prices ranging from around $1.35 to $2.95 a pair. True ingrain began waning as a popular stocking even before it felt the effect of woman's preference for the high twist dull luster, and probably would have only a very limited sale if accepted as a proposed style revival.

Some Talk of Mesh Revival.

In conformity with the notion that style changes are necessary for arousing a new interest in hosiery and depend on something other than beggarly prices for making an appeal, meshes are being given some attention by style promoters, and last month were featured in more and more of the better stores. There has been increasing consumer interest in meshes, at prices from one dollar a pair to $1.65. This interest would be maintained longer if cheap cut-and-sewn numbers were kept off the market.

Women that go in for style usually despise the cheap stuff; the element that wears the kinds built for price makes even the high priced seem commonplace. That was clearly demonstrated soon after the mesh vogue had become fully installed last year. Viewed in this light, it seems unfortunate, for the originators of the true non-run types of stocking, that its introduction was premature and not well managed, besides. For it appears to some persons frank enough to voice their convictions, although not partial to non-run construction, that in the present emergency, with retail trade calling for style changes, the non-run stocking produced under the license of the Textile Patents Corporation comes very near to filling the bill from the standpoint of style combined with utility, and cheapened non-run hosiery an improbability, as cheapening is one of the evils guarded against by the patents corporation.

The volume sales of women's silk full-fashioned hosiery will be in a price range between 50 cents and one dollar a pair. But there remains ample room for snappy styles, by which to draw attention away from the mere matter of price, and procure concentration on improvement in the industry through the medium of style innovation. In view of sad experiences with some of the novelties of recent years, retailers other than those financially well equipped and claiming a cosmopolitan clientele, are in no hurry to go outside the field of staples, and many of these do not avail themselves of the opportunity to exploit imitations until so late that the cream has been pretty well skimmed off of the legitimate. Builders of full-fashioned hosiery appear to have kept not more than about one step ahead of seamless interests in matter of developing style construction outstanding for permanency.

New Models of Full-Fashioned Machinery - Reported for Competition with Obsolete Types

According to statements by persons in position to know whereof they speak on mechanical improvement, it seems a safe prediction that old types of 39- and 42-gauge equipment—most of it obsolete although grinding out hosiery at a cost so low as to menace plants having modern machinery—are facing banishment with the introduction of new models about ready to go into commission in a few mills. It is stated machines of at least one 1933 model are geared for speeds that will make competition for old style machines utterly impossible.

By some interests, the development of speedier long frame equipment for popular gauge hosiery is viewed as the answer of old time builders to the recent launching of the single head device of the Wildman Manufacturing Co. It was believed by some factors that because so much used full-fashioned machinery—some of it of comparatively recent models—was available through plant liquidation by manufacturer creditors and bankruptcy and receivership sales, there would be a very limited market this year for the regulation 24-section high speed equipment. It appeared from reports in April that enough new machines capable of knitting 10 to 12 more courses per minute than most of that in use, will be installed as a 1933 farewell to depression in the full-fashioned industry to leave little room for the slower and much worn types.

There continued during the greater part of April demand for used full-fashioned equipment of 39-, 42- and 45-gauge, and some sales were made to manufacturers augmenting their plants for reducing overhead in the severe price competition. One manufacturer added two 45-gauge leggers because, he said, he had to, in order to keep operating cost at a low level. Buyers necessarily expect to acquire second-hand machinery at department store special sale prices, while most sellers who are not forced to dispose of equipment usually hold out for what prove to be prohibitive prices. There is thus less movement of machines from mill to mill than might be indicated by inquiries and eagerness to sell.

While present equipment is capable of producing fine gauge hosiery very economically, retailing of 45-gauge all-over silk—some with Paris clocks—at 50 cents a pair was not regarded as meaning excess output, but rather that sub-standard construction was the explanation. It is noted that inquiries for used machines seldom extend to finer than 45-gauge.

Prices in the popular brackets appear to be pretty well established. It is therefore apparent, say observers, that machine builders must for the present give no less consideration to consumer ideas of price than to style, since it has been demonstrated to managers of hosiery departments, say some of the more important buyers, that moderate price staples seem to have received preference over high price numbers which were somewhat conspicuous in the Easter offerings. It would therefore appear that equipment by which production is obtained on a more economical plane will be welcomed by manufacturers.

Praise for Synthetic Yarn Stocking Accompanies Complaint of Poor Silk

With raw silk at a slightly higher level in April than at any time since last fall, silk interests professed to believe increases to around $2 a pound for 85 per cent were a strong probability. For the same reasons that President Roosevelt favors legislation for securing to farmers profitable prices for their wool, cotton and various products, it is held by those assuming to arrive at conclusions in advance of happenings that Japan will move silk up, in order to derive a more substantial income from and for putting her principal industry more nearly on a parity with the textile raw material products of the United States.

Constantly lowering prices for rayon, and in particular the recent reduction, are held as virtually forcing Japan to get more effectively back of her silk industry. One report in the trade is that the Japanese government plans an advertising campaign for enlisting a wider interest in silk. This is one of a number of rumors which may prove to have been nothing more than propaganda in the interests of the silk importing trade. But the silk consuming trade seems expectant of announcements of a definite bullish character, while complaining of alleged poor quality of silk at present coming from Japan.

Inspection of women's Duponaise full-fashioned hosiery, introduced in Philadelphia at John Wanamaker's early in April, caused a manufacturer of silk stockings to say he wished silk might be not obtainable until the quality improves, for then, he went on, "We would be glad to knit Duponaise, which is free from rings." The fact that it is ringless was stressed at Wanamaker's and was regarded a factor in the reception accorded it. Besides possessing this quality, Duponaise is said by no less authority than that of several silk throwsters to be the most elastic of any synthetic yarn fabric. A hosiery manufacturer states that by actual test Duponaise has shown equal service with silk.

The stocking was put on sale at 45 cents a pair, simultaneously with announcement of a reduction in prices for rayon yarns. The Duponaise (a Dupont yarn) stocking is from Rosedale mill, Reading, Pa.

The reports of identical manufacturers to the Department of Commerce for February 1933 and last year show a considerable decline in the production of women's rayon hosiery from 1932 to February 1933, the declines being 29,805 dozens, to 19,317 for full-fashioned, and 53,181 dozens, to 109,940, for seamless. A surprising showing in the February report is of a production of 100,926 dozens of women's full-fashioned stockings or rayon in combination with cotton, compared with none reported for February 1932.

An increase of 27 per cent from February 1932 is shown in the production of men's seamless rayon stockings. The outstanding increase in any one description of hosiery was 160 per cent for men's cotton and wool mixed, of which the total for February this year was 119,685, while the total of the same combination, in all classes, was 128,312 dozens. In the report for men's silk full-fashioned hosiery there is shown a decline for February this year to 7919 dozens from 11,985 in the corresponding month of last year.

Men Wearing Fewer Full Fashioned Socks.

Production of men's full-fashioned socks in 1931 as reported by 13 manufacturers amounted to 258,983 dozens, compared with 190,393 dozens reported by identical manufacturers in 1932. Production of men's seamless by 102 identical manufacturers in 1931 and 1932 increased by 439,310 dozens to 16,737,042 dozens in 1932.

The higher prices for full-fashioned doubtless retarded their sales. Now full-fashioned fancies in silk combination are making headway at 50 cents a pair, with still a wide gap between that price and seamless fancies of silk-cotton combination. Announcement of the Hoover Hosiery Co., Concord, N. C., and Chipman Knitting Mills, Easton, Pa., recently launching fancy construction full-fashioned numbers in a retail price range of 50 cents to one dollar, is believed to mark the beginning of a new and wider interest in men's socks in the full-fashioned group.

Why such wide disparity in prices as is seen in men's half-hose of varying construction seems not so strange a question since the award of contracts at the Philadelphia quartermaster headquarters some weeks ago. The contract for cotton socks for the Marine Corps was awarded to Durham Hosiery Mills.

VERSATILE *in use* CONSISTENT *in quality*

ENKA YARNS are chosen for the FIRST

ANTI-CREASE Rayon Flat Crepe

FROM rough matelasse crepes to sand crepes . . . from flat crepes to a wide variety of knitted underwear and hosiery —so runs the story of Enka yarns.

● If there is one particular feature of Enka yarns that stands out, it is their remarkable adaptability—second only to the never varying excellence of the yarns.

● Perhaps never before has this so desirable characteristic been as forcibly brought to the fore as in the development of the new anti-crease fabrics—probably the most important recent development in textile merchandising. The first rayon flat crepe offered with this new process used Enka yarns —used them of course because of their established quality—but particularly because these yarns have shown themselves to take the anti-crease process with exceptional effectiveness.

SEAL CREPE

Made by Galey & Lord for six consecutive seasons of Enka yarns—finds in Enka the ideal yarn to take the new anti-crease process.

★ Wherever new fabrics are being evolved . . . fabrics that are novel in their construction and finish but constant in their quality . . . there the intrinsic value of Enka yarns plays an important part.

AMERICAN ENKA CORPORATION, 271 CHURCH STREET, NEW YORK

ENKA, N. C. PROVIDENCE, R. I.

low bidder, at 4.88 cents a pair. The high bid, that of Elting Brothers, was 8.39 cents. A like disparity was seen in the bids for supplying woolen socks, A. W. McLellan, who received the contract, bidding low at 11 cents a pair, against a high of 17.02 cents, also by Elting Brothers. In cotton undershirts also there was a wide gap between high and low, J. P. Stevens & Co. receiving the award on a bid of 10.25 cents per garment, while the bid of the Standard Knitting Mills was 16 cents.

The disparity in each case, it is pointed out, was greater by far than that, on a per centum basis, appearing in quotations on silk full-fashioned hosiery, made to no set specifications, while no variation in details as to government work is permitted. In the case of the bids for government contracts the disparity represents no intention to cut prices, a practice which seems not likely to be eliminated from the competition in hosiery except through acceptance of a manager, with unlimited power, for the whole industry.

With less than 45 worsted spinners of sales yarn operating American plants, all efforts to establish uniform prices and maintain adherence to them have failed, and since it is shown that in a group of dyers of a distinctive class, with only a dozen competitors, price cutting goes on unrestrained, the spinners and probably all other textile groups will give up trying to stop it, leaving the operations of the law of supply and demand to do that which other laws, adopted for emergencies, seem to have failed to effect. The woven label manufacturers have however, formed an organization for correcting evils persisting in their trade.

Cost of Gray Hosiery and Unfinished.

A manufacturer in Philadelphia is selling women's 39- and 42-gauge silk hosiery in the gray, at $2.85 a dozen, to a mill supplying retailers at $3.50 a dozen. The seller of the gray hosiery wondered how the buyer could dye and finish, inspect and pair and pack the stockings in quarter-dozen cartons for the margin of 65 cents a dozen and sell at a profit. Commenting on the problem, another buyer of gray hosiery said some concerns manage to perform all these operations on a margin of 45 cents, and lose no money. All-over silk hosiery, gauge not specified when price is quoted, is bought in the gray and sold for $3 a dozen. It is described as "mill runs" and a shipment may contain about as many irregulars as regulars. It is on retail counters at 35 cents a pair —three pairs for one dollar—yielding the retailer a comfortable mark-up.

A Philadelphia mill with liquid assets in a ratio of 83 to 100 liabilities, as shown quite recently in an audit by certified accountants, is known to be making no stockings priced by its customers, yet maintaining steady operation of plant. Some of the price hosiery may be assumed to be the product of mills embraced in the 59 which were found by a group of expert accountants to have sustained losses in 1932, only 12 out of the 71 whose books and accounts were officially gone over by the members of this group of accountants finishing the year with a balance entry on the right side of the ledger page.

It was a belief among scattered hosiers that some

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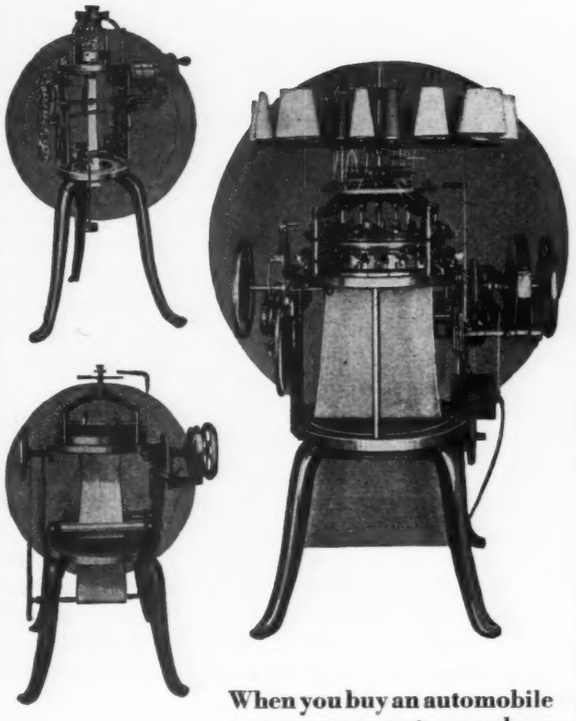

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Jersey Machines Plain and Fancy Stitches.

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Special Knitting Machines From ¼ inch to 36 inches.

When you buy an automobile —you are sure to purchase a car with a proud performance record. Why not apply the same excellent logic when you equip your mill with knitting machines? The name Brinton stands as high in its field, as Rolls-Royce, Packard, and Cadillac in the automotive industry.

Depend on Brintons

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low prices were to be expected after large retailers had made a survey of their Easter business. It was stated by manufacturers they sold little hosiery for promotion sales just before the festival when spring fashions were paraded, but that some leading stores planned for post-Easter special sales at substantial reductions from regular prices, with a view to having sales for April measure up to about the usual average, there having been disappointment over the relatively light volume during the first two weeks of April. It was the intention of a few manufacturers to produce only against orders while retailers with Easter left-overs were disposing of them. This attitude toward stock goods could be ascribed in part, however, to a feeling of uncertainty over farm relief legislation and a 30-hour week law, when and if enacted. There seemed no indication of an intention to stock up with hosiery in expectation of advancing prices due to possible inflation of currency.

Buyers Report Southern Mills Active.

Two buyers of hosiery for large retailing interests who spent a week in the early part of April visiting some of the more important southern manufacturers of standard lines of women's silk full-fashioned, ventured a prediction, following the return to their respective posts in metropolitan primary market centers in the North, that the industry in at least three of the southern states will this year make a record for further expansion.

One of the buyers referred to was not available for the purpose of an interview on his impressions of the conditions among mills visited, in the way of comparison with the full-fashioned situation in other centers with which they maintain relations. The other stated they found most of the mills operating on overtime schedules, with two shifts of employees. The South, he stated, "is making better hosiery than a few years ago—that is, more of the manufacturers have raised their quality standards," it was indicated by his comment.

The buyer said he believed southern mills as a class had a relatively large share of the Easter business. "Quality is essential just now to success of a drive for an expansion of sales," it was suggested, and a drive is what some elements in the trade are expecting of the full-fashioned hosiery manufacturers in the southern field, this year, encouraged by gains said to have been made in 1932 and by the fact that trade in most textile lines is regarded as definitely on an upward turn, since prices for the natural products of agriculture that enter into almost every division of textile manufacture appear to be ruling higher for a long pull, in spite of recent reductions among artificially produced raw commodities.

It seems a logical conclusion that the increases in production and shipments of full-fashioned stockings which statistics indicate for the five years to 1932 inclusive should be easily maintained in 1933. Statistics supporting this view are comprised in the chart or graph issued recently by the Textile Machine Works based on reports of manufacturers to the Department of Commerce. Each year, beginning with 1928, these figures show, shipments gained sharply, always attaining their peak in October and sinking to their bottom in July, a new low record being established in July 1932, the same year in which the peak for production and shipments was reached. The monthly reports for 1932 used in the graph were from 298 identical establishments. The next high year for production and shipments was 1930, when monthly reports from 313 identical establishments were received. The low for shipments during the five years covered by the Textile Machine Works graph was in 1931, when only 282 establishments reported to the Department of Commerce.

An important point disclosed by the chart is that in each of the five years both production and shipments in October were well above the monthly average for the year and measurably below the average, in July of each year. In the event the record for low for 1933 be registered in July, it might seem that, in view of sharp curtailment of output in the first quarter of the year, it will fall below that of 1932.

It is interesting to note in connection with this premise that production of women's full-fashioned in February this year was about 180,000 dozens less than in the corresponding month of last year, as reported by 296 identical establishments. There was indicated also a lower output in January this year than for 1932. But as stocks at the end of February showed a substantial decline, it seems not improbable that production for the second quarter of 1933 will be considerably greater than for the first quarter. It is within the range of probabilities that, in view of the introduction of Duponaise as a synthetic yarn for stockings, future reports will indicate an increase in output of rayon hosiery.

Fair Volume of Underwear Business Booked Before Manufacturers Withdrew Their Lines

Heavier bookings of orders for winter weight cotton underwear for men than had been contemplated in the uncertain outcome of pending legislation have been entered by most of the leading manufacturers. For a time just after the clouded primary markets took on a more cheerful aspect there was a fair measure of activity in men's heavies, and simultaneously orders for men's summer models came from hiding. In a general summing up for the March-April buying spell the trade accounted for a more satisfactory situation than during the placing of initial orders in recent years. Prices were asserted among buyers to be attractive to buyers and high enough to yield a fair return for manufacturers.

When a number of lines were withdrawn about April 1st, it was expected by manufacturers that unless federal legislation took a course different from that which seemed indicated, prices would be moved up by perhaps 50 cents a dozen for the lower price union suits. At that time the 30-hour week bill was headed for no one knew where, and farm relief and currency inflation were very much in the air, and it was realized that for manufacturers to obligate themselves for deliveries at the then quotation might start some of them on the way to involuntary liquidation. Jobbers took the stand that if legisla-

tion increased prices there would be no escape from paying them, but were content to await the action of the Administration powers. So, obviously, the underwear markets became decidedly tame in contrast with their activity during the alloted sales period. It is understood that during that period, to April 1, a much larger volume of business was placed than in a similar period of last year.

To some of the buyers who have sounded manufacturer sentiment in the desirability of passage of the Black 30-hour bill it appeared that the busy manufacturers were opposed to it, whole those who felt they had not received their share of the business, favored it. It seemed an impression among mill men that sentiment among leading distributors was decidedly against passage of the measure on the ground that any legislation tending to increase prices of commodities would retard business. In other words, as stated by a well known buyer, "Prices maintained at a low but proper level will have the effect of increasing consumption, and the use of more underwear will increase demand, make for the higher prices for which there is a clamor, and in sequence provide more employment. Mills will increase their sales faster while present prices last than after action by Congress forces advances."

An incident in the experience of a manufacturer several weeks ago offering women's cotton underwear to the buyer for a large chain store organization serves to illustrate how business may be made to suffer while legislation directly affecting sales is pending. "We are filling in assortments, but adding nothing new to any of our lines while there is talk of a heavy tax on chain organizations operating more than a very few stores," said the buyer, who is well known to numbers of manufacturers of men's and children's socks at five to 10 cents a leg. He added that a sure way to arouse the public against increasing taxation is to "tax the chain stores, with more customers than any other class of retailing organizations, and providing for manufacturers in many lines a better outlet for their products than through any other class of distributors to the public."

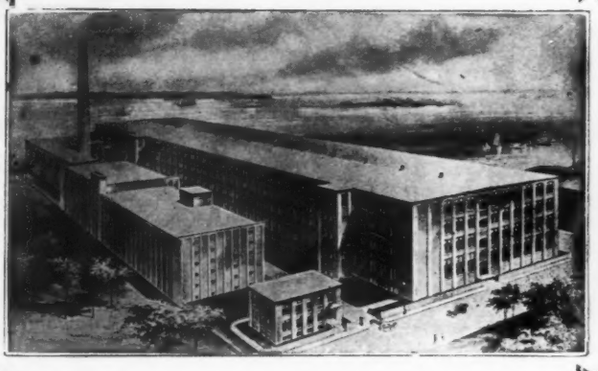
Jobbers Show More Interest in Sweaters As Bathing Suit Output Nears Season's End

Jobbers are, it is admitted among mill heads, in a dilemma as to purchases of heavy weight underwear this spring, but they are losing no time in the matter of moving light weights to retailers, as these will likely be in service before the pending bills affecting commodity prices have been disposed of. The longer strides in distribution of summer weights were made since the beginning of April, climatic conditions being more favorable to the marketing of seasonal goods.

There has been a fair amount of repeat order business in women's cotton underwear, but it is stated virtually no business in medium weights for the fall trade has been written. This, however, is in keeping with the general practice of leading buyers in recent years.

Sweater coat manufacturers felt a few weeks ago

Quissett Mill
New Bedford, Mass.



COTTON YARNS

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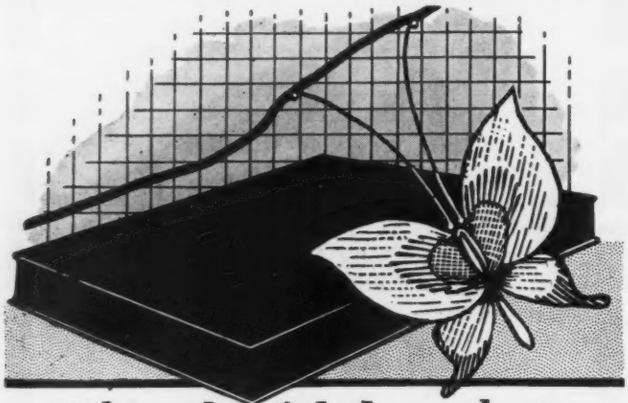

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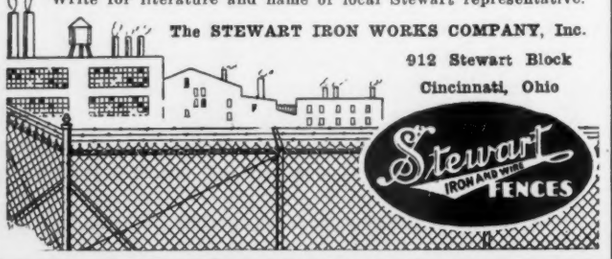

The STEWART IRON WORKS COMPANY, Inc.
912 Stewart Block
Cincinnati, Ohio

that they had succeeded in lining up some business in fall numbers. Having been some months behind the usual schedule for bathing suits, jobbers seemed to take liberties with manufacturers in the matter of initial orders for sweaters. This business is planned to follow the finish of the production season for bathing suits, which should be active until the last minute for delivery to retailers, for jobbers this year have not favored mills with the usual volume of business.

Some of the manufacturers of low price swim suits, to retail for about $1.39 per garment, were last month so well sold ahead that they were accepting no business for new accounts. There are comparatively few of these, however, and with them the orders came with a rush at near the eleventh hour. Manufacturers claiming to be seriously short of orders laid the blame to the bank holiday. It is known, however, that the bank holiday had nothing more to do with their slack business than had Easter, Good Friday or any other holiday, and that credits have been a factor in scarcity of orders in quite a number of mills.

Jobbers, it is pointed out, realizing they were making commitments under what seemed precarious conditions, explained they were limiting orders to practically known needs, and placing them with manufacturers who they believed would be able to complete deliveries regardless of turns in the markets. Almost any manufacturer willing to accept buyers' offers could get enough promises to accept delivery, to fill their order books.

It was said of some jobbers that they gave orders for duplicate quantities to each of several mills, to feel assured that in the event of an unexpected rush late in the delivery period they could be reasonably certain of having their needs taken care of. With reports to this effect existent, mills became shy of some of the business proffered in April by distributors not hitherto on their books. Thus it happens that bathing suits are liable to be in short supply for immediate delivery if the outdoor bathing season opens auspiciously.

Much of the business said by a few of the sweater manufacturers to have been "lined up," to be in process soon after May 1, is understood to be tentatively promised by the buyers for several chain store organizations. Mills have been angling in the chain store pools for several weeks in expectation of nibbles by which the prospective haul in the near future might be estimated. That they feel reasonably sure of receiving at least a part of the business in prospect was indicated when in mid-April a few manufacturers obtained options on worsted yarns in lots of 25,000 to 50,000 pounds.

In previous years the jobbing trade was prone to consider sweaters for fall so soon as it became known that large chain stores and catalog houses had placed contracts. If tradition runs true this year, some activity in sweaters should develop in May. There has been little animation in the sweater primary markets, and no great momentum was attained in the trading in bathing suits until jobbers last month commenced sending orders to cover for their sales to retailers.

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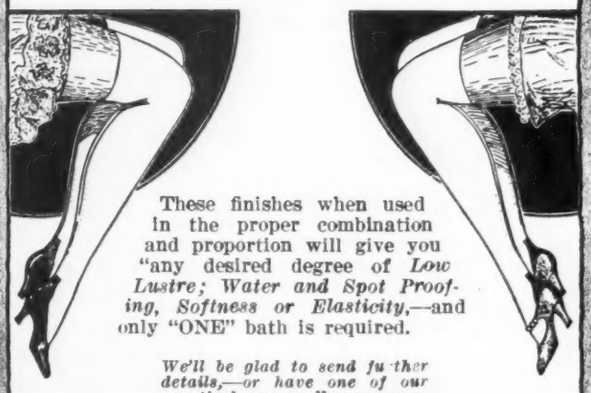

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BOSTON CHARLOTTE NEW YORK
PHILADELPHIA READING

REVIEW OF THE YARN MARKET

Philadelphia, Pa., April 17th, 1933.

THE rise in cotton during the first half of April not only carried prices for yarns to a logically higher level, but had the effect of giving to quotations more of the element of firmness, which could, obviously, be attributed to the rising market. It soon became apparent to operators in sales yarn that consuming manufacturers were not prepared, after the period of comparative steadiness on low levels, for the increasing strength of the markets for yarns, with which, of course, contracting had nothing to do. It was evident there were factors which were more effective in halting yarn trades than was the admittedly increasing fundamental betterment in their promotion.

After cotton had soared by approximately 50 points in the course of a fortnight, asking prices for carded on the basis of 10s single represented the cost price of cotton plus 7½ cents a pound, in conformity with suggestions submitted at the meeting of spinners in Charlotte, N. C., in March. Sales prices have been what buyer and seller agreed upon as a trading basis. While not closely following the listed quotations as arrived at from fluctuations in cotton, the deviations are regarded as not reflecting intended price competition to anywhere near the extent to which it was practiced for many months. In this one respect alone, it is conceded, the deliberations at the Charlotte meeting of carded yarn producers has been productive of a greater tendency to stabilization.

As April wore on, with less unsteadiness in the markets, there was reported a decline in demand for knitting yarns, which until a few weeks before had been leading in activity. This might be ascribed to a situation in the markets for heavyweight cotton underwear which was said to be especially pronounced in the Mohawk Valley section, manufacturers having covered for their initial selling and withdrawn their lines pending the disposition of then pending Federal legislation. Consumers of weaving yarns had not in the meantime increased their yarn bookings, and in mid-April were reported deferring their buying for the same reasons imputed to the knitting group. There had developed, however, somewhat more interest in finer counts of carded with the advancing season for light weight underwear.

It was common comment in the trade that possibility of passage of the 30-hour week bill and imposition of a proposed tax on cotton accounted for the deferred interest in cotton yarns, as well as other textile raw materials. As described by important yarn traders, "All hands are scared; there is no speculative buying."

There has been a fair amount of spot business in both carded and combed peeler yarns, sellers usually obtaining prices conforming to the market. There was little incentive for trying to place contracts, especially as numbers of spinners had signified a determination to book no business for deliveries beyond 30 days, a few designating 60 days as their dead line.

Blanket orders for 50,000 to 100,000 pounds of knitting yarns were offered quite recently single combed peeler being embraced in the offers to buy. It transpired that bids varied, by how much was not disclosed, but sellers whose bids were close to the list declared the business went elsewhere. Reports of sale prices are to be regarded indefinite.

Mercerizers reporting through their Philadelphia houses state there has been some catching up in the matter of specifications, but that new business in April was in very light volume. Prices for two-ply mercerized combed peeler are in a range 45 to 50 cents for 60s, little attention being given to offers of less than 47 cents, it is related.

Philadelphia prices published April 15th follow:

Single Skeins.

4s to 8s	12	10s	12¾
12s	13	14s	13¼
16s	13½	20s	14¼
24s	15½	26s	16½
30s	17½		

Single Warps.

10s	13¼	12s	13½
14s	13¾	16s	14
20s	15	26s	17
30s	18		

Two-Ply Skeins.

8s	13	10s	13¼
12s	13½	14s	13¾
16s	14	20s	15
24s	16	26s	17
30s	18	40s	23

Two-Ply Warps.

10s	14¼	12s	14½
14s	14¾	16s	15
20s	15½	24s	16½
26s	17½	30s	18½
40s	24		

Frame Spun Carded Cones.

8s	14	10s	14¼
12s	14½	14s	14¾
16s	15	18s	15¼
20s	15½	22s	16¼
24s	16¾	26s	17¼
30s	18¼	40s	24
30s double carded	20		
30s tying-in	17¾		

Carpet Yarns.

8s and 9s white warp twist	12½
8s tinged tubes	12
8s part waste	11

Two-Ply Combed Peeler Skeins and Warps.

8s to 16s	22	20s	23
24s	24	30s	27
40s	32	50s	37
60s	40	70s	50
80s	60		

Single Combed Peeler Yarns on Cones.

10s	19½	14s	20½
16s	21	18s	21½
20s	22	24s	23
30s	26	36s	29
38s	31	40s	33
50s	38	60s	41
70s	52	80s	62

Mule Spun Carded Yarn on Cones.

10s	18½	12s	19
14s	19½	16s	20
18s	20½	20s	21
24s	22	28s	23
30s	24	40s	30

Mule Spun Combed Peeler Yarn on Cones.

10s	24½	12s	25
14s	25½	16s	26
18s	26½	20s	27
22s	28	26s	29
28s	30	30s	31
36s	33½	38s	35
40s	36		

Tinged Insulating Yarns.

8s–1	10½	8s–2	11
10s–1	11½	10s 2	11½
12s–1	12	12s–2	12
		20s–2	14

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For Scouring Wool. For Boiling Off Cotton and Rayons.

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DEXTRINES
WHITE DARK CANARY
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IMPORTANT

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DOUBLE PASTE OR POWDER

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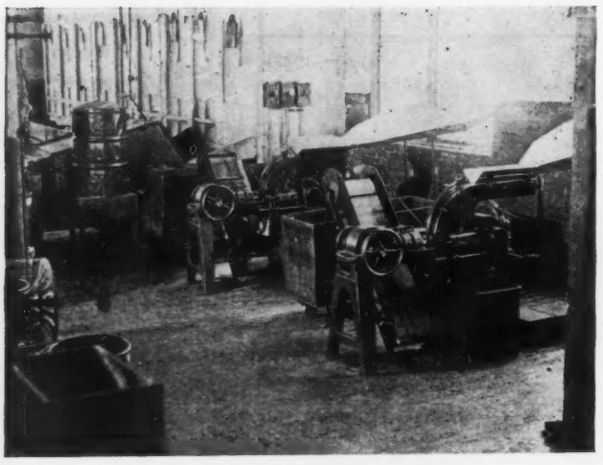

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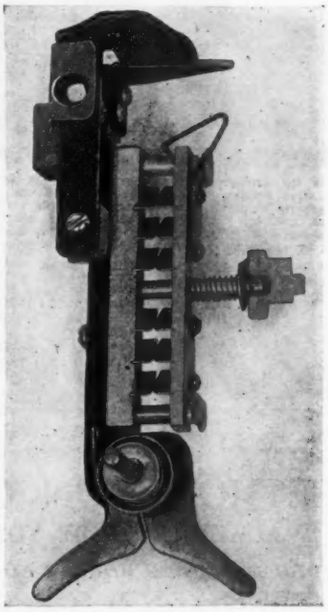

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The question of this year's cotton being exceedingly "trashy and dirty"? Accordingly are you turning out "trashy and dirty" yarns with excessive waste in your carding room? Does your product meet the exact requirements of your customers? Do you want to deliver a better product to your customers? If so, have your winders equipped with ECLIPSE YARN CLEANERS. They will guarantee you a *better* and *cleaner* yarn with no additional production cost.

The ECLIPSE YARN CLEANER is guaranteed to improve the quality of your yarn.

Request us to have a representative call and demonstrate to your entire satisfaction what the ECLIPSE YARN CLEANER can do for you. THE ECLIPSE YARN CLEANER is standard equipment in many up-to-date cotton mills.

The ECLIPSE YARN CLEANER can be attached to Foster and Universal winders and spoolers.

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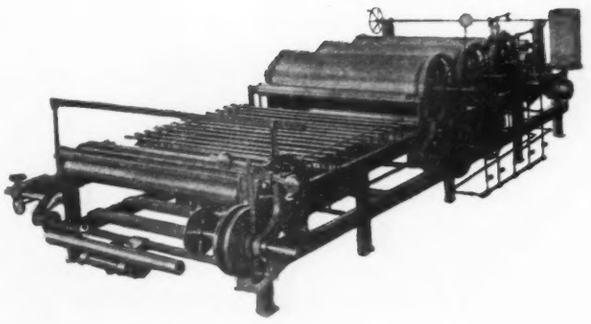
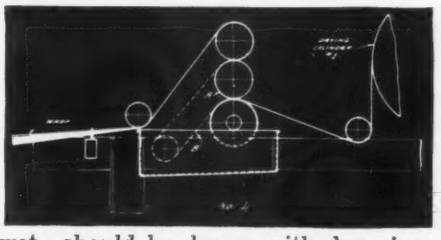
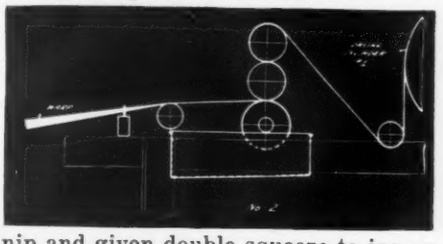


Johnson 3-Roll Universal Quetsch Essential to Better Warp Sizing

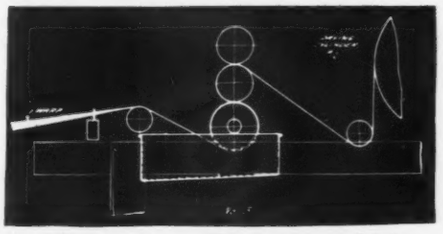
Illustrations below show most effective ways of applying size to viscose, acetate and other synthetic yarn warps.



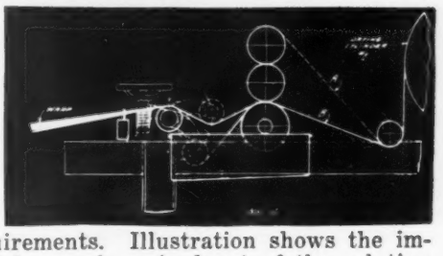
Viscose Type Warps which are very absorbent — highly susceptible to stretch when wet—should be drawn with dry nip and either fed to point where solution is applied, as in A, or run through solution, as in B. Single squeeze is sufficient.



Acetate Warps — highly resistant to moisture and size solution — may be drawn with wet nip and given double squeeze to insure thorough penetration. This illustration shows method used for warps that require light sizing.



Acetate Warp shown running directly through solution and being given double squeeze. For warps which need heavy sizing.



Acetate Warps run directly through solution and given single or double squeeze, depending on requirements. Illustration shows the immersion roll which may be raised out of the solution when it is necessary to stop warp.

Write for further information regarding these various methods.

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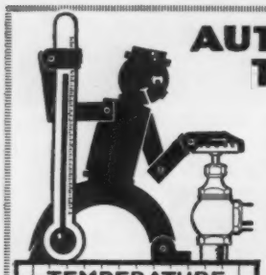

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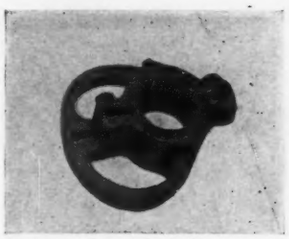

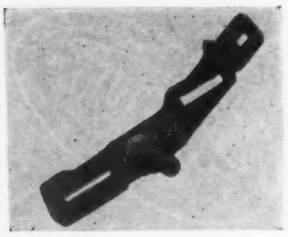

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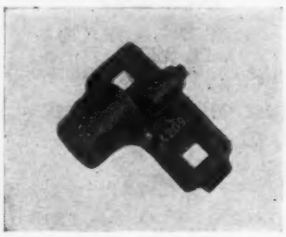

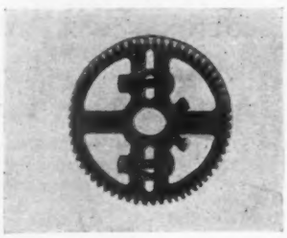

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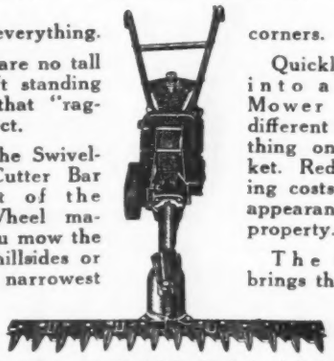

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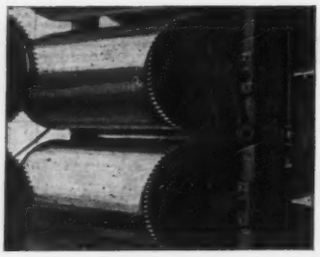

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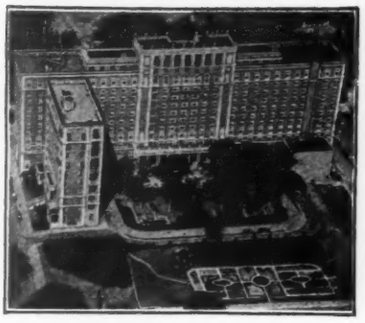

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